Sysco-Guise
ANNUAL REPORT 1990

91-03764/

Inauguration of the *Défi performance* (performance challenge).

Inauguration of the energy-efficiency project.

Improved quality of service.

Financial Data

(in $ M)	1989	1990	Variation in %
Gross Revenue	5,559	5,885	5.9
Total Expenditure	2,759	3,047	10.4
Net Income	565	404	(28.5)
Assets	33,873	36,684	8.3
Long-Term Debt	21,957	24,072	9.6

Operating Data

Gross Generation *(in TWh)*	125.1	115.0	(8.0)
Total Sales *(in TWh)*	137.6	135.2	(1.7)
Installed Capacity* *(in MW)*	25,126	25,682	2.2
Energy Reserve *(in TWh)*	57.4	79.0	37.6
Customer Accounts *(in thousands)*	3,086	3,151	2.1

Personnel**

Permanent	19,437	20,067	3.2
Temporary***	4,425	5,222	18.0

* In addition to its own installed capacity, Hydro-Québec has access to most of the generation of the Churchill Falls power plant, which has a nominal capacity of 5,428 MW.
** These figures exclude employees on loan to subsidiaries.
*** Annual average.

Units of Measurement

TWh : terawatthour, or 1 billion kilowatthours
MW : megawatt, or 1 million watts
$ M : millions of dollars

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Corporate Profile

Hydro-Québec is a publicly owned utility constituted by an act of the Québec legislative assembly in April 1944. In 1981, it became a joint-stock company with a single shareholder: the Québec government.

Hydro-Québec ranks among North America's largest electric utilities in terms of assets and volume of sales. It generates, transmits and distributes almost all the electricity consumed in Québec, and also sells and purchases both energy and power under agreement with neighboring systems in Canada and the United States.

Hydro-Québec activities extend to energy-related research and promotion, energy transformation and conservation, and other areas connected with energy. In many cases, the utility works with outside partners.

Gouvernement
du Québec

Deputy Prime Minister and
Minister of Energy and Resources

Québec City, April 5, 1991

Mr. Jean-Pierre Saintonge
President of the National Assembly of Québec
Québec City

Dear Sir,

I have the honor of submitting to you the annual report of Hydro-Québec for the year ended December 31, 1990.

Yours respectfully,

Customers and quality are the focal points of the process of openness and change to which Hydro-Québec is committed as it enters the new decade. The utility has re-evaluated customers' needs and identified the improvements to management practices and modus operandi that will enable it to fulfill its mission more effectively.

For 1990, Hydro-Québec also set itself ambitious operating objectives, almost all of which were attained despite the labor dispute which disrupted activities during the early months of the year.

Moreover, faced with lower energy reserves, the prospect of increased electricity demand and the uncertainty surrounding certain projects, Hydro-Québec had to take decisions that were sometimes complex and delicate, but nonetheless essential to consolidating its position and future development.

Financial choices. The low runoff of recent years had a significant impact on 1990 results, with revenue losses and additional expenses totaling $327 million. Still, we were able to increase our energy reserves appreciably, from 57 TWh at year-end 1989 to 79 TWh at year-end 1990, by a series of special measures which we adopted in 1989 and carried through into 1990. These included a virtual halt to sales of surplus energy, the buyback of dual-energy contracts from non-residential customers, an increase in purchases of electricity from neighboring systems, and the operation of Tracy thermal generating station on a continuous basis.

Over the next several years, substantial new investment will be needed in power-system facilities, service-quality enhance-

ments and the energy-efficiency project. To be able to sustain this financial effort, we set a goal of maintaining 1990 net income above the $400-million mark, and net income has come in at $404 million. Recognizing the importance of this objective, the Québec government authorized average rate increases in Québec of 7.4%, effective May 1990, and 6.9%, effective May 1991.

- We successfully completed our 1990 borrowing program of $3.2 billion, and we were also able to bring forward part of our 1991 program. As a result, we will have a greater margin of manoeuvre during the coming year when capital requirements will reach $3.8 billion.

Choosing energy efficiency... and markets. The total volume of electricity sales was down slightly in 1990 to 135.2 TWh, from 137.6 TWh in 1989. Nevertheless, Québec demand remains strong, having grown by 50% overall since 1982.

- This rate of growth in electricity demand prompted us to introduce, in the spring of 1990, an energy-efficiency project that will gradually extend to all Québec customers. It encompasses energy conservation and consumption management, and its goal is to reduce annual demand for electricity in Québec by 13 TWh between now and 1999; that is, by half the present consumption of the island of Montréal.
- Success in energy efficiency will mean a wiser use of present resources and a lessening of the need for new generating facilities, while contributing to environmental protection. Our project was well received by the majority of participants at hearings before the National Assembly of Québec's enlarged standing committee on the situation and prospects regarding electric energy in Québec. Most participants said they, too, were concerned about the evolution of energy consumption.
- Turning to exports, we moved closer to our firm-power-and-energy sales objective – 3,500 MW by the turn of the century – when we signed a new contract with the New York Power Authority in January 1990. To date, our long-term export commitments total 2,250 MW.
- To meet these commitments, we decided to bring forward construction of some generating stations that will be used to satisfy Québec's future needs. This strategy allows us to strike the best possible balance between the need to meet

Richard Drouin, Chairman of the Board and Chief Executive Officer

Québec demand and the benefits of developing export markets. In fact, an objective of export sales of 3,500 MW by the year 2000 will represent only 8.8% of our generating capacity at that time. Moreover, a third of these deliveries will take place between April and October, when Québec demand is lower.

- In September 1990, however, the National Energy Board brought down a decision regarding two new export licences that threatens to compromise our export strategy.
- Since July 1989, the Board had been considering a request for licences for long-term contracts with the New York Power Authority and Vermont Joint Owners. While the Board did decide to issue the licences, it made their validity subject to a condition that had never been stipulated before.
- The Board, in effect, is demanding that all new generating station projects associated with the exports be submitted to the federal environmental assessment and review process. The validity of the licences issued in September could be called into question throughout the lifetime of the contracts, and this presents many risks.
- We are therefore appealing the Board's decision before the Federal Court of Canada. Furthermore, we will use the cancellation time limits available to us before taking any decision on the future of the contracts.

Choices about power generation. The start of work in 1991 on the road and air infrastructures required for the Grande-Baleine complex will mark the beginning of a 10-year, $44-billion investment program in generation and transmission facilities. Nearly all the generating stations planned under this program are hydroelectric, because recent data clearly confirm that hydroelectric generation is still less expensive than thermal generation, and it remains the best option in terms of the environment. The economically viable hydroelectric potential of Québec's rivers exceeds 18,500 MW.

- In 1990, we continued construction of additional capacity at La Grande-2A generating station, which is now nearing completion, and we brought forward construction of some facilities under Phase II of the La Grande complex, in the James Bay region, in order to meet forecast needs for 1993.

Claude Boivin, President and Chief Operating Officer

Environmental choices. Hydro-Québec has a long-standing commitment to sustainable development. From this perspective, too, our decision to go with hydro power, in conjunction with energy conservation, offers the optimal solution.

- Once again in 1990, we devoted substantial resources to evaluating and mitigating the environmental effects of our activities. And we continued to consult with the communities concerned on the social and economic repercussions of our projects.
- In May, we published the first complete account of the environmental follow-up covering Phase I of the La Grande complex, in progress since 1975. The follow-up results confirm that the development has had neither a major nor an irreversible impact on the ecosystems of the region. Only the presence of mercury in the flesh of predatory fish requires that fishing restrictions on these species be maintained for a while.
- With regard to the Grande-Baleine complex, we are presenting our requests for government authorizations in stages, in accordance with the *James Bay and Northern Québec Agreement*. The draft-design report on the road and air infrastructures, which includes environmental impact-assessment studies, was submitted to the Québec government in December 1990. We expect to complete studies on the hydroelectric facilities themselves by the fall of 1991, as soon as we receive the ministerial directive.
- An information campaign to familiarize Quebecers with the many aspects of this project was launched in December. And the public are invited to call in their opinions, ask questions or request literature on the utility's policies and activities, using a toll-free telephone service.

Choosing greater dialogue. During 1990, Hydro-Québec took new initiatives to promote dialogue with Quebecers. Given the challenges we face, only greater dialogue and joint efforts with our partners will maximize our chances of success. From now on, as agreed with the Québec government, the Hydro-Québec Development Plan will be submitted to an enlarged parliamentary committee of the National Assembly every three years, following consultations with interested parties.

- In labor relations, too, we are convinced that joint efforts offer the best means to

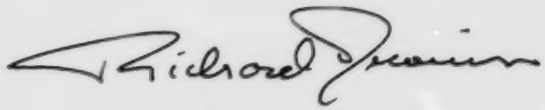
create the momentum the utility will need in the coming years. Unfortunately, despite determination to find common ground for an agreement, the negotiations that had been in progress since 1989 on the renewal of collective agreements for unionized office, trades and technical personnel failed. Special legislation by the National Assembly of Québec was needed to terminate the labor dispute in May. We nonetheless intend to increase our efforts to re-establish an effective climate of cooperation with these employees, and with staff throughout the utility.

The fundamental choices. Some of Hydro-Québec's priorities are, and will remain, unchanged. Thus in 1990 we reaffirmed our commitment to improve the quality of customer service.

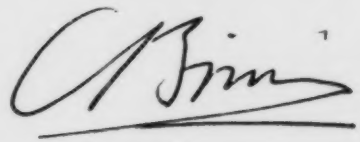
- Between now and the mid-1990s, we plan to invest $4 billion in customer service – a top priority for everyone at Hydro-Québec. Our performance in this area improved considerably in 1990. Although we were behind schedule in the late spring, subsequent efforts to catch up produced encouraging results, and will be maintained over the next several years. Our goal is to be recognized, by 1995, as one of Canada's most quality-conscious electric utilities.
- The *Défi performance* project introduced in the fall underscores our drive for quality. This initiative testifies to a desire for real change in the way the utility works and is managed, combined with a firm commitment to continuous improvements in quality.
- The strategy to be implemented is based on the management of total quality, and introduces new management values centred on customer satisfaction, the mastering of work processes, and the mobilizing of human resources. It advocates that employees focus their efforts on a minimum number of strategic targets, and that results be constantly improved through teamwork. All managers have been familiarized with the strategy, to ensure the operation's success.
- *Défi performance* will lead to new ways of setting the utility's priorities and objectives, and of re-evaluating them each year. The total quality approach has already proven itself in many companies internationally, and will be phased into all our sectors of activity over the next

five years, enabling the team that is Hydro-Québec to demonstrate the full extent of its abilities and potential.

In closing, we wish to pay tribute to our employees and their ability to overcome the most difficult obstacles. We would also like to acknowledge the constant support provided throughout 1990 by the members of our Board of Directors and the Minister of Energy and Resources. Finally, we wish to express our appreciation to Marcel Couture, who left the utility after 30 years of service, including 20 years at the helm of our communications and public relations activities. Mr. Couture was a tireless promoter of closer ties with the community at large, and with the social and cultural community in particular.



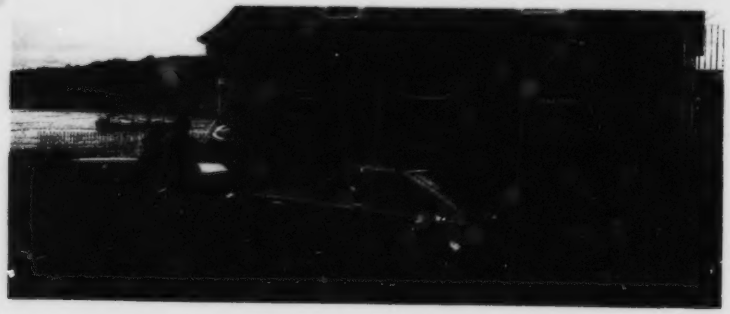
Richard Drouin, QC
Chairman of the Board
and Chief Executive Officer



Claude Boivin
President and
Chief Operating Officer

The best indicators of Hydro-Québec's performance are quality of electricity supply, and quality of the customer-utility relationship. In 1990, Hydro-Québec increased and improved measures to ensure customer satisfaction, with particular emphasis on continuity of electricity supply, billing, and ease of access to services.

Along with this objective, Hydro-Québec continued work on reinforcing the power system, to obtain optimal output from its installations. Its aim is to be recognized, by 1995, as one of Canada's top electric utilities in terms of quality.



Ensuring Quality of Electricity Supply

Hydro-Québec evaluates the quality of its electricity supply by means of a continuity index, which measures total average annual interruption time per customer. The index covers all interruptions: planned outages for maintenance and upgrading work, as well as power failures. In the latter case, there is a distinction to be made between power failures caused by equipment breakdown, and those caused by exceptional events such as violent storms.

In 1990, total interruption time was 6.69 hours on average per customer, compared with 6.52 hours in 1989. The 1990 total includes 1.21 hours for planned interruptions, 3.56 hours attributable to breakdowns on the distribution system, and 0.66 hours of interruption caused by

exceptional events, such as major storms in June and November. Had the latter not occurred, the continuity index would have indicated a better performance on the distribution system. Interruptions attributable to the transmission and subtransmission system were down slightly, to a total of 1.26 hours on average per customer in 1990, compared with 1.30 hours on average in 1989.

Continuity Index
(in hours and hundredths of an hour)

	1989	1990
Distribution:	5.22	5.43
Planned interruptions	1.21	1.21
Power failures - equipment breakdown	4.01	3.56
Power failures - exceptional events	0.00	0.66
Transmission and Subtransmission (excluding general power failures*):	1.30	1.26
TOTAL	6.52	6.69

*There have been only two general power failures on the system since 1982: one in 1988 and the other in 1989.

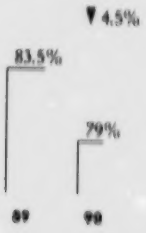
Providing Quality Service

Minimizing the inconvenience of repairs.

To upgrade the power system, Hydro-Québec has embarked on an extensive work program which means interrupting electricity service to customers for varying periods of time. Nonetheless, every effort is made to notify customers well in advance, either through the mail or via the media. Computerized voice systems installed in 1990 are also being used to advise customers by telephone.

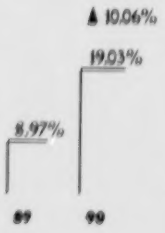
Billings based on actual consumption. One of Hydro-Québec's objectives calls for at least 87% of its customers to receive bills based on actual meter readings by March 1991. The average rate obtained for 1990, 79%, was slightly below that of 1989, primarily due to the billing delays experienced by 379,000 customers during the labor dispute in the first few months of 1990. The rate improved considerably after the difficult start to the year, registering an average 86.5% by the final quarter. The utility will further reduce the number of estimated billings by installing special automated equipment that provides a remote reading of meters that are difficult to reach.

Average Rate of Actual Meter Readings



Equalized payments plan gains ground. Customers are encouraged to join the equalized payments plan which offers the possibility of a fixed monthly payment, determined at the beginning of a 12-month period and adjusted at the end. In this way, the bigger bills incurred during periods of high electricity consumption can be spread over the year. It is hoped that 20% of customers will have joined the plan by March 1991. By year-end, the proportion had already reached 19.03%, indicating that the campaign should be successful.

Customers in the Equalized Payments Plan

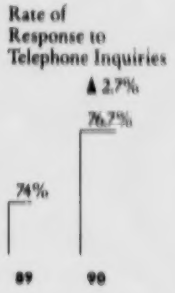


Collections. During the year, an extensive remedial action plan was introduced to manage collections. Faced with overdue and unpaid accounts of about $140 million, the utility had to adopt special processing and recovery measures.

An additional 80 employees were brought in to help existing staff, and regional resources were also enlisted. As a result, Hydro-Québec was able to recover $21 million more than it had in 1989, at a cost of $3 million.

Efficiency and quality of access. Customer-service representatives handled nearly 2,250,000 telephone inquiries in 1990, 2.7% more than in 1989. The rate of response was up, after a poor showing in the first quarter because of the labor dispute. Since mid-year the response rate has improved steadily, reaching 89.2% in the final quarter.

- Several steps were taken during the year to facilitate customer access to the utility. These included longer business-office hours, rigorous follow-up, and installation of a more efficient telephone system in the Montréal region.



- Customer-service offices are being redesigned to create a more welcoming environment. Furnishings have been made more comfortable, while signs both indoors and out have been improved.

Customer complaints. In 1990, Hydro-Québec processed 9,104 customer complaints (out of a total 9,259 received), of which 2,999 were from residential customers and submitted in writing, in accordance with the *Act respecting the examination of complaints from customers of electricity distributors*. On average, each complaint required 29 days for settlement, or 37 days if processed in accordance with the Act. In more than 82% of cases, complainants were satisfied with the settlement.

- Of total complaints received, 2,881 included monetary claims. Other frequent grounds for complaint were difficulty in reaching the utility by telephone, and various aspects of billing.
- The measures taken to improve billing practices and access to the utility indicate a firm commitment by Hydro-Québec to greater customer satisfaction.

System Performance and Increased Product Quality

The quality of electricity supply depends on the ability of the generating, transmission and distribution systems to respond to demand at a given point in time. But most activities related to maintaining and strengthening the power system have to be spread over several years.

- For example, it was in 1987 that Hydro-Québec began reviewing criteria governing the design and operation of its transmission lines, and it has now established criteria which are compatible with those of electricity companies in eastern Canada and the northeastern United States that are represented by the Northeast Power Coordinating Council.
- Spending on the Reliability Enhancement Program – Transmission System was $67 million in 1990.

Series compensation. Series compensation is one method Hydro-Québec is using to reinforce the power system. The installation of series compensators on extra-long transmission lines increases their sturdiness and carrying capacity. Installation work began in 1989 and will be completed in 1995.

- The main engineering work of 1990 was the addition of reactors, the reinforcement of static compensators, and the selection of protection relays to be installed in 735-kV substations.
- Series compensation requires the testing of new applications and products, one of which is protection relays. Simulator trials carried out during the year at Hydro-Québec's research institute, IREQ, resulted in the selection, among existing products on the market, of the appropriate relays for the power system. This process marked a world first in system simulation, both for the manufacturers and for electric utilities.

Studies also continued on installation of automatic devices, switches and circuit breakers. The hiring and training of the technical staff required to introduce these new technologies was stepped up during the year, both at head office and in the various regions.

Telecommunications. In conjunction with series compensation, new radio links were installed on the transmission system of the St. Lawrence North Shore, in order to boost the telecommunications network which plays such a vital role in system operation. A new telecommunications control centre was built in 1990 and will be operational in early 1991.

Maintenance. Maintenance activities centred on the generating and transmission systems, where remedial action was required to clear up the backlog of work accumulated in recent years. In 1989, Hydro-Québec introduced the Maintenance Enhancement Program and this continued in 1990. Spending on maintenance for generating plant, transmission lines, substations, and the telecommunications network totaled $56 million in 1990, and $130 million has been earmarked for 1991.

Major repairs. Major repair work was required during the year. Repairs to dams and bridges alone accounted for $55 million. A thermal reinforcement is being added to the Daniel-Johnson dam for long-term protection of the concrete at the foot of the arches. The work, which began in 1989, should be completed by July 1991.

Boosting the equipment reserve. An adequate equipment reserve speeds up repairs and replacements in the event of breakdowns. In 1990, transformers, reactors and circuit breakers were added to this reserve, for total investment of $20 million.

Improved distribution. In 1990, $54 million was spent on the Service Quality Enhancement Program – Distribution System, over and above the hundreds of millions of dollars presently spent on distribution. Small conductors and surge arresters were replaced, and lines, cables and grounding devices installed. Some underground 4-kV circuits were converted to 25 kV, and preventive maintenance continued on both the underground and overhead distribution systems.

Major tree-trimming work was completed in the Montréal region. Branches can seriously compromise safety and threaten continuity of service.

Industrial customers. Industrial processes are increasingly automated, and therefore cannot tolerate momentary interruptions of current, or voltage fluctuations. For some years now, Hydro-Québec has been collaborating with its large-power industrial customers to improve voltage levels and continuity of supply to the industrial sector. The objective is to establish a formal procedure, whereby the causes of current fluctuation and interruption can be identified and solutions found. In 1990, discussions continued with representatives from industry and associations, and a plan of action will be put forward in the near future.

In 1990, Hydro-Québec introduced an energy-efficiency project, aimed at all Québec customers. It encompasses both energy conservation and consumption management, and its goal is to reduce by 10% the forecast growth in demand between now and the end of the century. This, in turn, will reduce the need to build new facilities, and ensure that present and future energy resources are used more wisely.

Action was also taken during the year to optimize market development.

A Collective Effort

Over the last 20 years, the average energy consumption of Québec households has dropped by about 40%. Homes are better designed and insulated, and the extensive use of electric heating has led to major gains in energy efficiency. Businesses, industry and institutions have also made considerable efforts to obtain a better energy performance from their equipment and installations. Yet demand for electricity in Québec remains high, and has in fact increased by 50% since 1982.

Demand and Markets

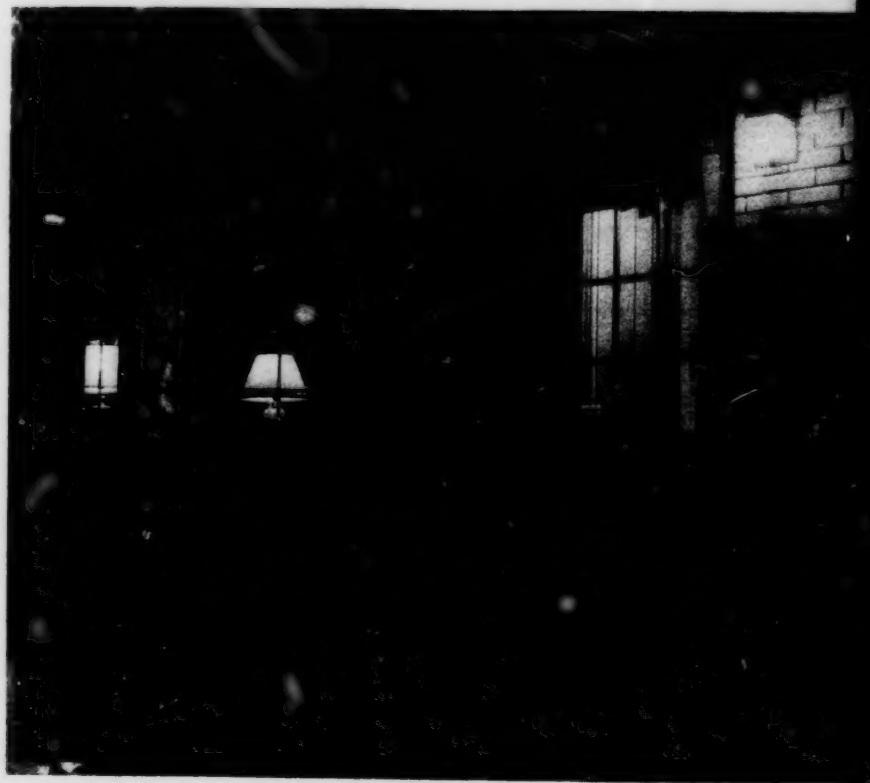
Greater Energy Conservation

One of the aims of the energy-efficiency project launched by Hydro-Québec is to reduce annual Québec demand for firm electricity by 12.9 TWh by 1999. This is equivalent to half the present electricity consumption of the island of Montréal.

To achieve this, the utility has assembled a package of energy-conservation measures that it will gradually introduce in each of its customer categories. These measures will receive marketing and technological backing, and will require total spending of $1.8 billion between 1990 and 1999.

Action to date. In 1990, Hydro-Québec began promoting energy-saving electrical fixtures for the home. More than 90,000 customers took advantage of a discount offered jointly, by Hydro-Québec and the manufacturer, for a reduced-flow shower head, and the number of spinoff purchases is estimated at 42,000. As of 1991, this will mean energy savings of 58 million kilowatthours, or the annual electricity consumption of about 3,000 average households.

Other plans include two individualized energy audit programs, aimed at helping customers identify their personal energy-conservation options. These are targeted at all customer categories, and should get under way in 1991. They will also be used to build data banks from which subsequent initiatives may be formulated. Hydro-Québec has



also begun an energy analysis of its own administrative buildings, where it hopes to achieve energy savings of 15% to 20%.

- Two other projects were completed: a pilot scheme providing energy audits for households having difficulty paying their electricity bills; and a public-lighting project in the town of Lachute, northwest of Montréal.

Useful information. To further encourage customers to participate in energy conservation, in December 1990 Hydro-Québec began distribution of a quarterly magazine containing a wealth of information and practical tips on using electricity. *Hydro 90*, provided free of charge to 2,850,000 homes, has been very well received.

- And in October a six-part course on home heating was produced, to be used by master plumbers and electricians, as well as associations of home builders, consulting engineers and architects. This was also very successful.

Consumption Management

In addition to energy conservation, the energy-efficiency project takes in consumption management, with particular emphasis on managing peak demand.

- Hydro-Québec's mission is to meet the demand for electricity in Québec at all times. But Québec demand varies enormously from one season to the next, and over one 24-hour period. There is therefore a significant difference between average annual demand and peak demand, and facilities have to be built that are not required in off-peak periods.
- For some years now, the utility has been trying to reduce this difference, with the aim of eliminating or shifting about 4,000 MW of peak demand by the year 1999, through a variety of programs.

Dual energy in the residential sector. Dual energy is a heating method that combines electricity with a second source of energy, usually oil or gas. Electricity is used during off-peak hours, and the second source kicks in during peak hours. In 1990, the number of residential customers enrolled in the Dual Energy Plus Program went up by 8,000, to almost 66,000. At year-end, there were 90,000 dual-energy units in the residential sector.

Hydro-Québec would like to see this number increase to 150,000 units over the next few years, and continued in 1990 to work with partners in developing more adaptable, effective dual-energy equipment. In 1991, it will offer financial assistance to customers interested in installing this equipment.

Interruptible power. The Interruptible Power Program gives Hydro-Québec an additional margin of manoeuvre during peak periods, by enabling it to interrupt supply to some industrial customers for a few hours each day, in exchange for rate discounts. At the start of winter 1990, the amount of interruptible power available was almost 800 MW. A new trial program, set up during the year, offers a special rate and financial assistance as incentives to industry, to help meet the objective of 1,200 MW of interruptible power by winter 1995.

Optimizing Market Development

Hydro-Québec continued its activities on the industrial and export markets, to increase the comparative economic advantage afforded by Québec's water resources.

Industry. Volume of sales to industry in 1990 was 46 TWh, or 36.5% of total Québec sales. Three major industries account for nearly two-thirds of this consumption. They are the pulp and paper industry (29.9%), the smelting and refining industry (24.4%), and the chemicals industry (10.5%). In 1989, these three industries injected over $3 billion into the Québec economy, or 50% of total manufacturing investment. They also accounted for 30% of manufacturing deliveries, and employed nearly 20% (97,500) of the people in this sector.

Electricity exports. On the export market, Hydro-Québec is looking for sales of long-term firm power and energy totaling 3,500 MW by the turn of the century, or 8.8% of generating capacity at that time. This percentage will subsequently decrease as the commissioning of new plant increases the overall installed capacity of the system.

- On January 23, 1990, a new 800-MW diversity-power sales contract was signed with the New York Power Authority. Diversity power is the power delivered by one system outside its peak period to another system during its peak period. Deliveries will be made by Hydro-Québec from April through October, starting in 1999 and ending in 2018, for estimated revenue of about $7.5 billion.
- Export contracts to date total 2,250 MW, and revenue is estimated at $29.5 billion.
- New deliveries to the United States started in October with the commissioning of the Radisson-Nicolet-Des Cantons transmission line.
- Average unit revenue from total sales outside Québec increased, from 3.17 cents per kilowatthour at the end of 1989, to 3.25 cents per kilowatthour at the end of 1990.

TOTAL ELECTRICITY DELIVERIES
(in TWh)

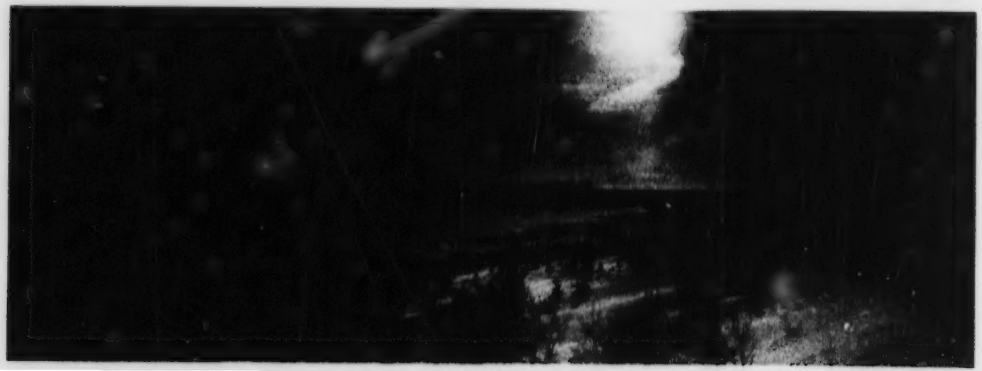
	1989	1990
Québec:	127.9	126.0
Residential and farm	47.6	47.0
General and institutional	28.8	28.3
Industrial	46.8	46.0
Other	4.7	4.7
Outside Québec	9.7	9.2
TOTAL	137.6	135.2

Because its installed capacity is almost entirely hydroelectric, Hydro-Québec must have a sufficient level of water in its reservoirs to meet the demand for electricity. It must also have a sufficient number of generating stations, or be able to call upon other sources of supply.

In recent years, poor runoff has considerably lowered reservoir levels. Moreover, as of 1993, existing generating facilities will not be enough to meet the anticipated demand for electricity. The actions of 1990 were set against this backdrop.

Restoring Energy Reserves

Between 1984 and 1990, natural inflows into reservoirs were relatively low. They fell significantly below the historic average for three of the seven years, and slightly below the average for the remaining four years. The energy reserves available to Hydro-Québec declined accordingly, from 115 TWh at the end of 1984 to 57 TWh at the end of 1989. Measures taken since 1989 pushed up the reserve to 79 TWh at the end of 1990.



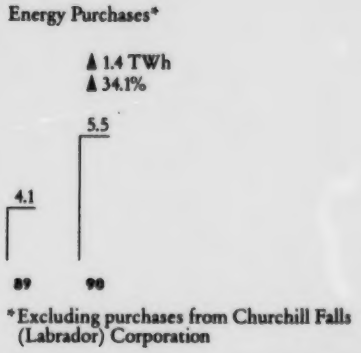
Interruption of dual-energy deliveries. To ensure sufficient energy reserves for the priority needs of 1990, Hydro-Québec had bought back most dual-energy contracts in the commercial, institutional and industrial sectors by the fall of 1989. As 1990 inflows were up, however, deliveries gradually resumed starting in December, and are expected to increase from 1.6 TWh in 1990 to 2.7 TWh in 1991.

Thermal generation. Tracy oil-fired generating station, used in the past almost exclusively as a peaking plant, was in continuous operation throughout 1989 and until the fall of 1990. It generated 1.7 TWh in 1990, which also helped save energy reserves.

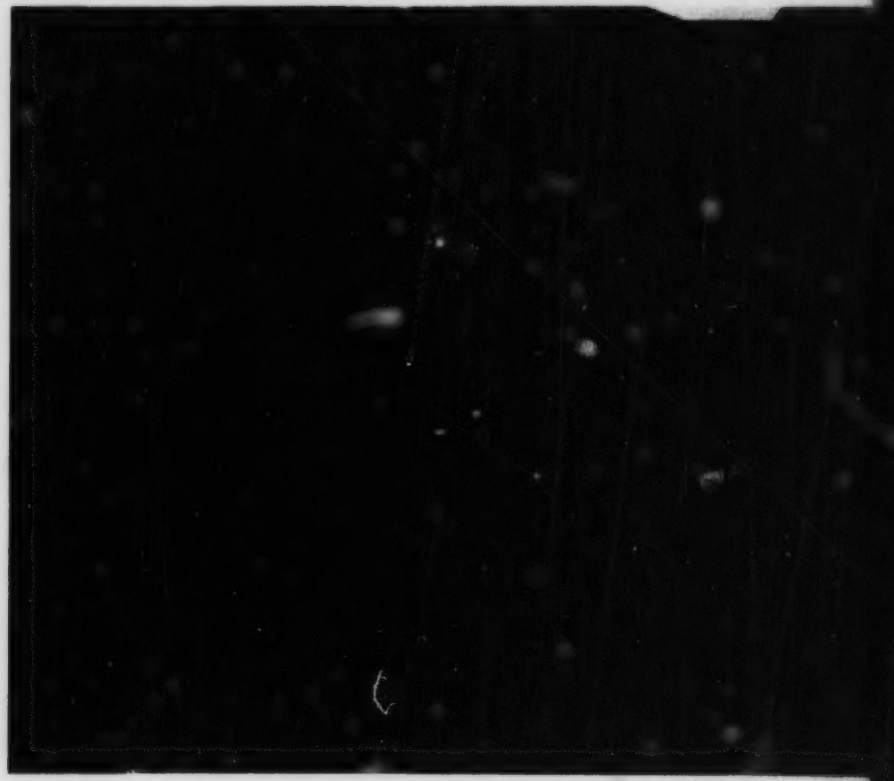
Energy purchases. In 1990, Hydro-Québec stepped up its supplemental purchases from neighboring systems, buying a total of 5.5 TWh from neighboring systems in Canada and the United States.

Diversifying Sources of Supply

Power purchases from neighboring systems. To meet the winter peak of 1989-1990, Hydro-Québec availed itself of the 400-MW diversity-power contract signed in October 1989 with the New York Power Authority.



*Excluding purchases from Churchill Falls (Labrador) Corporation



- And on May 28, 1990, it signed a similar contract with New Brunswick Power, which makes it possible to purchase blocks of power – up to 400 MW between 1991 and 1998, 300 MW between 1998 and 2002, and 200 MW between 2002 and 2011.

Independent power producers. Hydro-Québec is encouraging the start-up of small power plants that had been taken out of commission, as well as cogeneration – a process that generates both electricity and useful heat for industrial applications.

- In 1990, two small power plants belonging to Développement Hydroméga, the first located in Mont-Laurier and the second in Sainte-Catherine, near Montréal, delivered nearly 31 million kilowatthours to Hydro-Québec. This would be enough to supply 1,500 average households for one year.
- In May, Cascades, the pulp and paper manufacturer, brought on stream a 16-MW, cogeneration station at its Kingsey Falls plant. And Hydro-Québec is discussing with various other companies the possibility of more power stations of this type being linked to its grid.

Expanding the Power System

In 1990, Hydro-Québec continued a program of projects and construction work, to expand its generating and transmission facilities. While the accompanying table shows its present state of progress, some points are worth noting.

- The final two generating units of Manic-5-PA (additional capacity), came into service in March and September, in time to meet peak demand during the winter of 1990-1991.
- In the James Bay region, the construction of additional capacity at La Grande-2A is nearing completion. The first three generating units will be on stream in the fall of 1991.
- Under Phase II of the La Grande complex, Brisay, Laforge-1 and Laforge-2 generating stations will be built earlier than originally scheduled.
- The remaining projects are at the consultation, study and authorization stages.

PROJECTS	STUDIES	AUTHORIZATIONS	STATUS OF WORK
La Grande complex – Phase I			
La Grande-2A: first 3 units			In service, fall 1991.
La Grande complex – Phase II			
Brisay			Earlier construction, for commissioning in 1993.
Workers' camp			Completed early 1991.
Powerhouse			Excavation completed 1990. Concreting under way. Excavation of underground access gallery in progress.
Laforge-1			Prebuilding of 2 of the 6 generating units, for 1993 commissioning.
Generating station and intake			Excavation completed. Concreting of the powerhouse in progress.
Penstocks			Excavation and concreting in progress.
La Grande-1			
Generating station and tailrace canal			Excavation completed in 1990.
Powerhouse and spillway			Concreting in progress.
Laforge-2	Environmental impact assessment tabled November 1990.	Government authorization awaited for construction start in 1991.	Earlier construction, for commissioning in 1995.
Eastmain-1	Development: phase II of draft design continuing.	Requests for authorization to be made in early 1991.	Commissioning scheduled for 1996.
Access road			Construction start scheduled for 1991.
Eastmain-Némiscau 315-kV line: route	Draft-design studies in progress, for completion in 1991.	Requests for authorization to be made in 1991.	
Radisson-Nicolet-Des Cantons			
450-kV direct-current line			In service on October 31, 1990.
Nicolet substation			Will be ready for the 1991-1992 peak.
Grondines-Lotbinière under-river crossing			
Tunnel excavation			Completed March 26, 1990.
Tunnel concreting			Completed January 31, 1991.
Additional capacity – Manic-Outardes complex			
Manic-5-PA			Second-last unit in service on March 31, 1990. Final unit in service on September 30, 1990.
Manic-3A	Technical reports and environmental studies completed.	Requests to be tabled in 1991.	Commissioning scheduled for 1996.
Manic-2A	Environmental studies in progress. Technical reports being prepared.	Awaiting ministerial directive.	Commissioning scheduled for 1996.

PROJECTS	STUDIES	AUTHORIZATIONS	STATUS OF WORK
Grande-Baleine complex			Commissioning scheduled for 1998.
Road and air infrastructures	Impact studies tabled in December 1990.	Request for authorization of road construction tabled in December 1990.	Construction start scheduled for April 1991.
Hydroelectric complex		Awaiting ministerial directive.	Construction start scheduled for May 1993.
Rupert-Broadback-Rupert complex	Draft-design studies in progress. Presentations to forestry companies and interested parties completed in fall 1990.	Engineering design authorized in September 1990. Awaiting ministerial directive.	
Eastmain-Marguerite complex	Draft-design report scheduled for early 1991.	Requests to be tabled in 1991. Government authorizations expected by March 1992.	Commissioning scheduled for 2001.
Archipelago complex	Technical draft-design report completed in 1990. Environmental reports being prepared. Sectorial studies tabled in 1990.	Ministerial directive obtained in November 1990.	
Haut-Saint-Maurice expansion			Commissioning scheduled for 2001.
Rapides-des-Coeurs, Rapides-de-la-Chaudière and Rapides-Manigance projects.	Rapides-des-Coeurs and Rapides-de-la-Chaudière draft-design studies in progress. Rapides-Manigance feasibility study under way. Presentations to interested parties, forestry companies and municipalities completed in 1990.	Awaiting ministerial directive. Engineering design authorized for Rapides-des-Coeurs and Rapides-de-la-Chaudière. Rapides-Manigance request on hold.	
Gas-turbine stations			
Bécancour: 4 turbines	Impact study tabled January 1991. Complementary studies in progress.	Awaiting government authorizations.	Commissioning scheduled for December 1992.
De La Citière	Project abandoned. Hydro-Québec will purchase 400 MW of peaking power from New Brunswick Power, starting November 1991.		
Des Cantons–Lévis 735-kV line			
Corridor and line route	Draft-design studies in progress, for completion in 1991.	Requests for authorization scheduled for February 1991.	
17th line, north and south sections	Draft-design studies completed in 1990.	Requests made in 1990, authorizations expected in 1991.	
735-kV line between Lemoyne and Tilly substations			
Route	Studies in progress, for completion in 1991.	Requests to be tabled in 1991.	
18th transmission line (AC) to the North Shore	Study under way on appropriateness of construction.		
315-kV collector system (integrating the Grande-Baleine generating stations, Radisson and Churchill substations, and the 14th line)	Draft-design studies of the line corridor and route began in 1990.		

Over the past 30 years, Hydro-Québec has committed more than $700 million to identify and analyze the environmental impacts of its activities, and develop mitigative and enhancement measures. The implementation of these measures has required an even greater financial commitment.

Today, the knowledge built up over two decades helps support efforts to achieve sustainable development, a crucial objective for Hydro-Québec's employees and its partners alike.

For some years now, Hydro-Québec has been multiplying its efforts to exercise tighter control of the various contaminant products used in its maintenance and operating activities. Increasingly, the focus is on prevention, combined with corrective measures for existing facilities.

PCBs. Polychlorinated biphenyls are contained in certain types of power-system equipment (transformers and capacitors). During a fire, they can be transformed into dioxins and furans, substances which endanger the environment and human health.

- A plan of action introduced in 1985 aims for the removal of all PCBs from the power system by 1995. Already 88% of transformers and 76% of capacitors containing PCBs have been removed, and Hydro-Québec is proceeding with the decontamination of oil whose PCB content exceeds 50 parts per million. To date, 4 million litres of oil have been treated.
- The utility obtained encouraging results from experiments on the decontamination of oil-bath equipment and PCB-insulated apparatus. It also participated in tests of PCB destruction by incineration, performed in Alberta using the VESTA technology. The results of these tests, which will be known in 1991, are extremely important to Canadian industry since federal regulations introduced in July 1990 prohibit the export of wastes containing PCBs.
- During the year, Hydro-Québec continued its upgrading work on storage sites for PCBs and other dangerous wastes, to comply with new provincial regulations.

Some $20 million was spent in 1990 on managing PCBs. Expenditures since the plan of action was adopted have reached $82 million, out of a total budget of $176 million.

Herbicides. Herbicides are chemical compounds used to destroy certain plants or impede their growth. Hydro-Québec uses these products primarily in the maintenance of its power line rights-of-way, but continues to study the environmental effects of herbicide use and to seek alternative methods for controlling vegetation. One such method now being evaluated involves the planting of shrubby or herbaceous species that offer natural competition to harmful vegetation.

PCP. Pentachlorophenol is a preserving agent used by Hydro-Québec to treat wood poles. The utility owns about 1.5 million poles treated with this substance. A study program launched in 1989 to examine all aspects of managing PCP-treated wood will run until 1993, with a budget of nearly $2 million. In 1990, studies centred on the behavior of PCP in the environment, product substitutes, and methods for treating contaminated waters and decontaminating the soil.

CFCs and halons. Chlorofluorocarbons and halons are gases used in some fire-protection systems, and are known to have a destructive effect on the ozone layer. The inventory that Hydro-Québec completed in 1990 of equipment containing these compounds will enable it to better monitor their use, starting in 1991.

Restoring Contaminated Sites

Îles de la Madeleine. Hydro-Québec continued studies and decontamination work that started in 1989 at the site of the Îles-de-la-Madeleine thermal generating station, where the groundwater has been polluted by fuel oil. A system to confine and recover the oil floating on the groundwater has been installed, and the utility is studying more thorough cleaning methods to be applied once the oil has been recovered. In addition, an environmental monitoring program is now in progress. Tests to date have not revealed any contamination of drinking-water wells in the neighboring municipality of Cap-aux-Meules.

Québec's *ministère de l'Environnement* and interested groups in the îles de la Madeleine have been kept constantly informed of the situation. Since July 1989, more than 30 information sessions have been held, various publications distributed, and an information centre opened and operated during the summer season.

Soil decontamination. During the year, Hydro-Québec continued research on methods for soil decontamination. These efforts included tests to determine the effectiveness of soil-cleansing techniques.

Improving Operating Facilities

Tracy generating station. Since the start of 1990, the maximum sulphur content of the fuel oil used at Tracy thermal generating station has been cut from 2.5% to 1.5%. This measure has led to a considerable reduction in the concentration of sulphur emissions (SO_2). Furthermore, Hydro-Québec is examining the plant's remaining service life and its conversion to natural gas.

Distribution facilities. Progress was made on studies of conditions for integrating distribution facilities into the environment. Studies performed in 1990 focused on facilities in commercial and agricultural environments; they will be completed early in 1991 by a study of integration in the industrial environment. Hydro-Québec also began drawing up policy

directives and methods for improving integration, and has set up a training program.

Employee Training and Awareness

To sensitize employees and increase their awareness of Hydro-Québec's environmental concerns, some 20 training sessions were organized in 1990 for the benefit of managers, specialists, engineers, technicians and trades personnel.

Since 1989, a regular column in the employee newspaper, *Hydro-Presse*, explains environmental issues in everyday terms, and keeps employees up to date on the utility's endeavors in this area.

Informing the Public

Hydro-Québec participated in nearly a dozen major exhibitions in 1990, with the aim of increasing public awareness of its environmental policies and practices. In cooperation with the Université du Québec à Montréal, it organized seven lectures on the theme of "Environment and Society." Similar lecture series featuring internationally recognized speakers have been held every year since 1988.

Environmental Follow-Up After Construction

Environmental follow-up identifies and measures the actual impact of power-system facilities, making it possible to compare the reality with the effects anticipated in draft-design studies, and to assess the effectiveness of mitigative and enhancement measures. Follow-up begins once a project is completed and is an extension of impact-assessment studies.

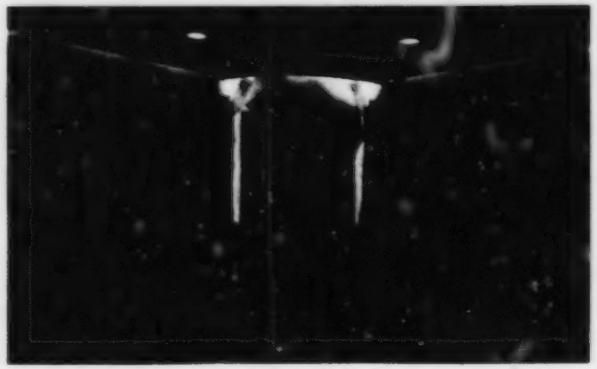
The La Grande complex. In May 1990, Hydro-Québec made public the results of its environmental follow-up of Phase I of the La Grande complex in the James Bay region. This follow-up has been carried out over a period of 17 years with the assistance of several independent organizations.

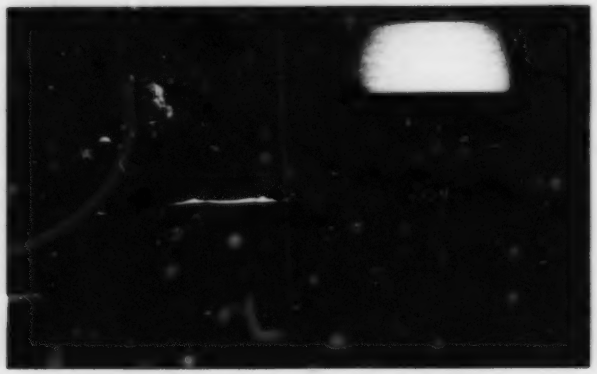
- The results indicate that hydroelectric development under Phase I has not brought about significant change in the coastal habitats of James Bay. Migratory birds continue to use these habitats as often as before. Further inland, where the creation of reservoirs has caused the loss of land habitats, these losses have been relatively minor and no land species has been endangered. In fact, for some years now during the winter, large numbers of caribou have been observed feeding on lichen growths on the islands and shores of the reservoirs. The creation of new aquatic habitats has led to an increase in fish populations, but mercury levels in the flesh of predatory species, such as northern pike and walleye, remain high in certain locations. Therefore, fishing restrictions on these species must be temporarily maintained.
- Hydro-Québec has undertaken to produce an analysis of the socio-economic effects of its hydroelectric developments on the Cree population. This will be useful in making a better assessment of the issues surrounding future development projects, and should lead to more effective mitigative measures.

Research on Health Issues

Hydro-Québec continued to participate in international research on the biological effects of the electric and magnetic fields produced by high-voltage power lines. It is preparing a document, intended for the scientific community, that will summarize current knowledge on the subject.

On November 5, the utility inaugurated its electric and magnetic field interpretation centre, *Électrium*, located on the grounds of the Hydro-Québec research institute, IREQ. Built at a cost of $3 million, the centre gives members of the public an opportunity to learn about research in this field.





Evaluating the Utility's Environmental Performance

Hydro-Québec is setting up a program to measure its environmental performance. The three-year program will commence in 1991, and be in three parts: an environmental audit, the development of performance indicators, and an evaluation of the resources allocated to the environment.

Organization and Human Resources

The past year was marked by an in-depth examination of the way in which Hydro-Québec carries out its mission. As a result, managers committed themselves to a corporate drive to introduce new management methods based on continuous improvements in quality.

Hydro-Québec is convinced that it can rally all personnel to the task of improving overall performance by the introduction of rigorous and innovative management techniques focused on customer satisfaction.

Rethinking the Organization

At the end of 1990, Hydro-Québec reorganized part of its senior management structure. The new division of responsibilities is designed to clarify accountability, limit the number and complexity of interfaces, and reduce the range of activities for which individual managers are responsible.

In concrete terms, two specialized operating groups were created, each managed by an executive vice president who reports to the President and Chief Operating Officer. The *groupe Production, Transport et Télécommunications*

(Generation, Transmission and Telecommunications) takes in the four regions where generating and transmission activities predominate, along with the head office units responsible for those activities. The *groupe Clientèle et Distribution* (Customers and Distribution) brings together the six regions that deal mainly with customer service and distribution activities, as well as their relevant head office units. Within these two operating groups, organizational changes will take place in several stages.

Enriching the Role of Managers

Hydro-Québec continued to implement its *Programme Action-cadres*. Since the program was launched in 1988, a host of initiatives has served to strengthen managers' participation in the running of the utility.

Labor relations. Throughout the negotiation of collective agreements, managers were consulted regularly on the direction of the negotiations, and their input was sought in solving problems and making decisions. Flexibility and openness in communications helped foster a spirit of solidarity at all levels of management. Once the negotiating phase came to an end, measures were taken to coordinate and harmonize the application of collective-agreement provisions in the various administrative units, so as to establish a working climate conducive to productivity and efficiency.

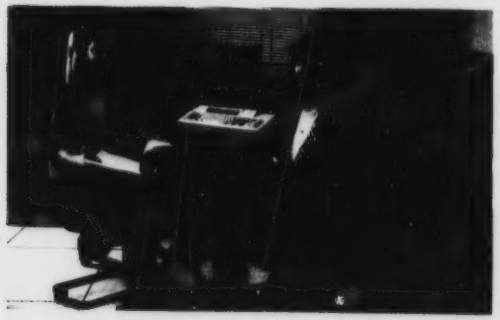
Professional development. During the year, Hydro-Québec formulated a human resources development policy. This policy, to be implemented early in 1991, sets forth the company's values and orientations with regard to training and development. The utility also integrated the management of employee development into the performance evaluation program for managers. Furthermore, it adopted a procedure for succession planning and development focusing on positions of strategic importance. This procedure is being implemented in stages, starting with senior management.

- Finally, a reorganization of the work of foremen and forewomen will enable them to exercise better supervision of their employees, while promoting greater coherence in management activities.

Changes Affecting Specialists

The first stage of the new management scheme for specialists, which covers the organization of work, hiring and selection practices, job appraisal and remuneration, took effect as planned in 1990. The second stage, covering mobility and professional development, will be finalized and put into effect starting in 1991.

- Several unions have applied to represent Hydro-Québec's specialists: since 1986, six accreditation requests have been submitted to the provincial labor commissioner. The commissioner in charge of the case has decided to hear all the parties concerning all aspects of the dossier, rather than examine requests one by one based on the order in which they were received. The hearings got under way in October 1990.

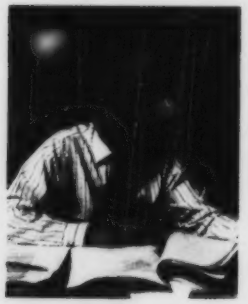


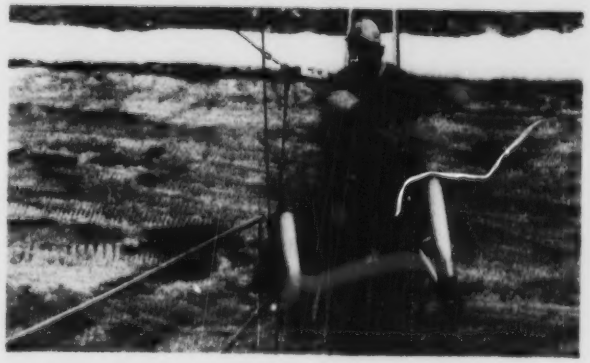
Improved Management of Health and Safety

Committee organization. Hydro-Québec completely revised the workings of its health and safety committees, with a view to making them more effective and thus improving the management of health and safety. These union-management committees play an advisory role in the utility's prevention program, and it is their responsibility to select appropriate personal protective equipment.

Work-related accidents. Work-related injuries can be significantly reduced by a careful analysis of duties and work methods. As part of this effort, in 1990 Hydro-Québec compiled a list of the 107 operating jobs in the trades category. It then inventoried the duties required by these jobs, pinpointing tasks that frequently give rise to accidents. In 1991, the utility will continue its study of the duties that present the highest risk, with the intention of developing safer and more effective work methods.

Training activities. Hydro-Québec continued to provide the training required under the Workplace Hazardous Materials Information System, in compliance with the *Regulation respecting information on controlled products*. By year-end, 9,000 employees had received general training. Starting in 1991, the utility will offer more specialized training, mainly for trades personnel.





Increasing awareness. Hydro-Québec took measures to sensitize its employees to road safety, mental health and physical fitness, and the benefits of not smoking. As required by the *Act respecting the protection of non-smokers in certain public places*, to which it has been subject since 1987, the utility has extended the smoking ban to areas where food is consumed.

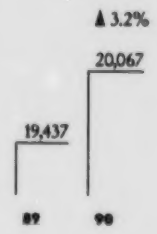
Settlement of Labor Dispute with CUPE; Signing of Several Agreements

Passage by the Québec National Assembly of the *Act to ensure continuity of electrical service by Hydro-Québec*, on May 4, 1990, terminated the labor dispute with bargaining units of the Canadian Union of Public Employees (CUPE), which began in May 1989. This legislation renewed the collective agreements involving 15,700 clerical, clerical-related, trades and technical employees until December 1992. It specifies salary increases for 1990 and 1991, sets forth a number of changes to the expired collective agreements, and contains provisions to ensure continuity of electrical service.

To promote greater coherence and improved monitoring of how the agreements signed with CUPE are being applied, Hydro-Québec set up a weekly information network for human resources managers. It also prepared guidelines to clarify and standardize the interpretation of certain clauses.

During the year, the utility renewed collective agreements with the *Fraternité des constables spéciaux d'Hydro-Québec*, the *Syndicat des répartiteurs*, and the *Syndicat des employés de bureau d'Hydro-Québec (études préliminaires)*. It also signed its first agreement with the *Syndicat Professionnel des Scientifiques de l'IREQ*.

Permanent Employees
(at December 31)



Temporary Employees
(annual average)

Adapting and Strengthening Staffing Practices

Employment trends. In 1990, while permanent staff increased by 3.2%, temporary staff was up by 18%, due to greater use of their services in special projects such as service-quality enhancement programs, and in situations of work overload.

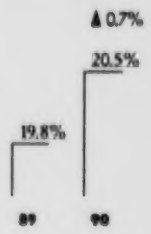
The growth in employment levels will continue over the next several years, leading to greater hiring activity and mobility within the organization. To ensure better management of this growth and facilitate workforce planning, during the year Hydro-Québec developed a series of key human resources indicators. It also adopted a hiring policy which will speed up the recruitment process, and make it more rigorous.

Recruitment. Hiring activity will be greatest among unionized staff, who perform the majority of the tasks related to service-quality enhancement programs and construction of new facilities. Consequently, Hydro-Québec has reviewed all of its recruiting methods and opened new employment offices. In so doing, it hopes to meet its needs more effectively, while improving the quality of new personnel and accentuating its presence on the Québec labor market.

Increasing Women's Representation

Tangible results. In 1989, Hydro-Québec adopted the objective of increasing the proportion of women to 30% of permanent employees by 1999. During the year, individual administrative units entered into this corporate commitment. A stronger sense of accountability on the part of managers marks a turning point in the program which, increasingly, is becoming an integral part of human resources management. As a result, action has been taken to favor the hiring and promotion of women in job groups where they were under-represented. Women's representation overall rose by 0.7% in 1990, more than twice the increase recorded in 1989.

Representation of Women Among Permanent Employees *(at December 31)*



The next steps. During the year, Hydro-Québec made an analysis of its employment system – staffing, remuneration, training and working conditions – in order to identify the systemic obstacles that confront women at Hydro-Québec. The resulting recommendations will provide the basis for qualitative improvements.

- To build up a bank of candidates for temporary positions in the trades and technical categories, Hydro-Québec placed advertisements in regional weekly publications inviting women to apply. Nearly 2,500 applications were received for these non-traditional jobs, and the selection process is now under way. Over the medium term, this initiative should make it easier for women to gain access to permanent positions.

Training Continues

Hydro-Québec continued to offer training programs for clerical workers, who received two types of instruction: specialized training when moving to a new job, and preparatory training, equivalent to the community college level, for more complex positions. Since 1988, 675 employees have participated in preparatory training sessions, for a total cost of over $10 million.

- Some 98% of the 260 managers appointed since 1989 took part in introduction-to-management sessions under the *Programme d'initiation à la gestion*. This mandatory training program helps prepare new managers to perform their role effectively.
- Improvements to training activities were also made. For example, professional assistance is now available for employees re-entering the utility after a period of training, and four regional training centres were created to bring together a range of services and reduce costs.
- Finally, to facilitate the management of its training activities, Hydro-Québec set up a task force to develop an integrated management information system covering human resources training.

Thanks to its wide-ranging activities throughout the province and the scope and variety of its investments, Hydro-Québec is a major contributor to Québec's economic and social development.

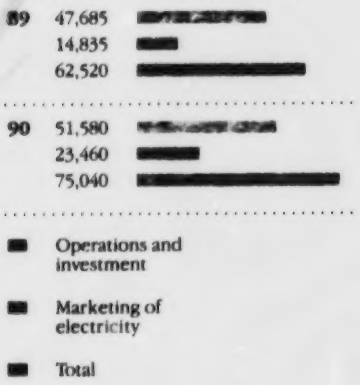
More carefully targeted initiatives and closer cooperation with its partners can help the utility achieve optimum results. This philosophy continued to guide Hydro-Québec's decisions during 1990.

Economic and Social Development

Stimulating the Québec Economy

Through its operating and construction activities in 1990, Hydro-Québec injected more than $7.5 billion into the provincial economy, a contribution estimated at 4.6% of Québec's gross domestic product. Jobs sustained by utility activities represented 75,040 person-years in 1990.

Jobs Sustained
(in person-years)



Hydro-Québec Purchases *(in $M)*

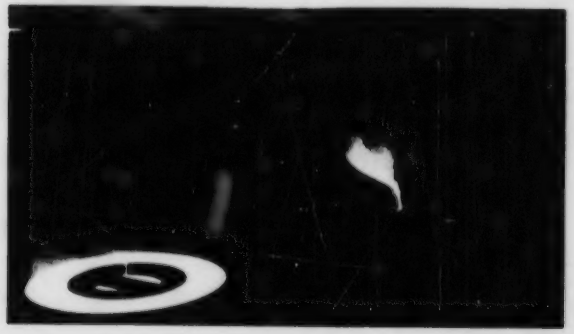
Purchasing policy. Hydro-Québec continues to favor products and services produced and supplied in Québec, although the utility also buys outside Québec and Canada. The Québec content of 1990 purchases was 53% for goods and 94% for services and construction work – an overall Québec content of 72%.

Promoting key products. After consulting with suppliers, Hydro-Québec identified eight products likely to contribute to the future development of Québec's electrical industry. These products include submersible transformers for the distribution system, substation connection equipment, and protective devices. Studies concerning these products should lead, in the very near future, to recommendations as to their manufacture in Québec, technology transfers, R&D requirements, and export potential.

Efficiency in industry. Hydro-Québec continued phase II of its Electrotechnology Implementation Assistance Program, whose aim is to improve the efficiency of electrical processes in Québec industry. While phase I targeted large industrial customers, this phase is of particular benefit to small and medium-sized industrial companies. The 44 agreements signed in 1990, representing a capacity of 23 MW, cover 88 installations and involve a commitment of $3 million in Hydro-Québec subsidies.

Over the past five years, 992 installations using high-performance electrotechnologies have been introduced in Québec's industrial plants, with more than $54 million in financial support from Hydro-Québec.

In October, Fonderie Grand-Mère won the Canadian Electrical Association's Annual Industrial Award for achievement in energy efficiency. With Hydro-Québec's help, the company installed two electromagnetic induction furnaces that enabled it to reduce production costs, increase product quality, and eliminate polluting emissions.



Partner in Research and Development

Technology plays a vital role in Hydro-Québec's development. In recent decades, it has been central to the substantial progress made by the utility in the expansion and operation of its system. In the years to come, technology will remain one of Hydro-Québec's trump cards in meeting the challenges of service quality, the environment, occupational health and safety, and profitability of investment.

- In 1990, Hydro-Québec spent more than $123 million on the technological research, development, demonstration and testing projects described in its 1990-1992 technology plan. Nearly 400 projects were in progress during the year, some of them with external partners. To date, over 50 products developed by Hydro-Québec have been marketed, generating 1990 sales revenue of $7 million.

Improved operating tools. Progress on a number of R&D projects will help enhance the reliability, durability and productivity of power-system facilities and improve operating methods.

- For example, testing continued throughout the year on the 500-kV DC cable prototypes for the under-river crossing of the Radisson-Nicolet-Des Cantons transmission line. The final report on conformance and aging tests, and recommendations concerning the choice of supplier, are expected by mid-1991.
- During the year, Joslyn Canada manufactured 500 units of a new type of nonfragmenting surge arrester, designed by Hydro-Québec for the distribution system. The prototype units, made of polymer concrete, have been installed on the power system and will be tested until June 1991.

SPE, battery of the future. The utility's commitment to research and development of batteries led to the announcement in October of a new joint venture. Hydro-Québec and Yuasa Battery of Japan are equal owners of ACEP (the French acronym for solid-polymer electrolyte batteries), which should commence operations early in 1991, and which holds exclusive rights to the shareholders' patents and expertise in the field of SPE technology.

- SPE batteries are much lighter and smaller than conventional lead batteries, but equally powerful. The introduction of this new technology promises significant economic benefits for Québec.

- The two partners intend to manufacture small SPE cells for the electronics market. The first manufacturing plant for the small cells will be located in Japan, while a second plant is to open in Québec within five years. Later on, the partners will produce large batteries designed for electric vehicles. Hydro-Québec will undertake the necessary R&D and ACEP's first large cell plant will be built in Québec, followed by a second facility in Japan.

Nouveler and its subsidiaries. Nouveler acquired an 81.25% interest in a newly formed company, M3I Systems. Specialized in applied imaging and licenced to market software products developed by Hydro-Québec, M3I will serve companies which operate distribution systems, mainly in North America. In November, M3I signed its first contract with the city of Los Angeles.

- Nouveler also acquired a 25% interest in Ultra Optec, which specializes in instrumentation related to leading-edge technologies such as the extremely precise ohmmeter developed by Hydro-Québec; and a 30% interest in Automatisation Famic, which markets software, simulators and

training materials for the automation of production processes, and provides related services.

- CYME International's sales grew by more than 50% during 1990. CYME, which has become a world leader in power-system management and engineering software, serves customers in over 50 countries and derives 70% of its revenue from export sales.
- Strateck Technologies International continued to market MECO software (Mainframe External Control of Operations), designed to automate the control functions of central computers. During the year, Strateck signed distribution agreements covering the Ontario and U.S. markets.
- Vibro-Meter made inroads with its system for measuring air gap in generators, patented by Hydro-Québec, and launched a new product called ZOOM which makes it possible to monitor generators using a personal computer.

Joint ventures with the private sector. On June 1, Hydro-Québec signed a five-year cooperative agreement with the *Centre de recherche industrielle du Québec*. The agreement's purpose is to develop and promote the most promising technologies, taking into account the partners' respective missions. It covers financial participation in projects that involve long-term avenues of research, support for the study and marketing of new technologies, promotion of the uses of electricity, and the sharing of laboratory facilities.

- CITEQ, located in Varennes, is a centre for innovation in the transmission of Québec's electrical energy. Formed in 1989 by Hydro-Québec and Asea Brown Boveri, the centre put its organization into place in 1990. Over the next five years, ABB and the utility will invest close to $20 million, on an equal basis, for the development of new equipment to enhance the reliability and capacity of large power systems and their interconnections.
- Fonds Capitecq I, a venture-capital fund launched in March, promises to give a new impetus to Québec's technological expansion. By year-end, more than $20 million had been raised by the nine partners to help finance the start-up of companies engaged in technological innovation in

areas such as energy, telecommunications, computer systems, industrial automation and electronics. Between 1991 and 1994, the utility plans to invest $5 million in Fonds Capitecq I.

- Finally, the Hydro-Québec research chair in technology management, established in 1990 at the Université du Québec à Montréal, will be a focal point for dialogue between researchers and managers on ways of encouraging technological innovation and developing business acumen in leading-edge industries.

Exporting Québec's Know-How

In 1990, Hydro-Québec International revised its business strategy and redefined its relationship with private-sector partners. As a result, the company focused on a new market niche: turnkey contracts which offer a franchise formula. By year-end, HQI had attracted business worth $150 million.

Major contract in the Caribbean. In August, COHSI Consortium, formed by Hydro-Québec and Le Groupe Sofati, received a 15-year contract to upgrade, expand and operate the electricity-distribution system of Santo Domingo, capital of the Dominican Republic. This is the largest contract ever won by a Québec company in the Caribbean, and it is estimated that the project could generate gross revenue of US$300 million.

- Under a franchise formula, COHSI Consortium will finance through private sources the $65-million investment required to upgrade Santo Domingo's system. It will also incur the costs related to operation and maintenance of the system over the 1990-2005 project period. In return, the partners will receive revenue in the form of rental fees charged on electricity distributed through the upgraded system.
- Under the contract, some 150 project managers and technicians will receive training based on the operating model developed at Hydro-Québec, adapted to the local context. As well, the consortium will carry out technology transfers, including network dispatching and computerized information systems.

Projects in many other countries. During the year, HQI worked on contracts worth about $5 million in Africa, the Middle East and Asia. It signed a two-year contract under which it will provide technical assistance to Guinea's national electric utility, ENELGUI. The company also obtained a $600,000 contract from Malaysia to provide engineering services for the Sabah Dispatching Centre and a related telecommunications system. Elsewhere in Asia, HQI continued to collaborate on an R&D project approved by the Indian Planning Commission.

Closer Ties with Native Peoples

In 1990, Hydro-Québec strengthened its ties with Indian and Inuit peoples in Québec, and with the government departments and other agencies involved in Native affairs.

The dialogue between Hydro-Québec, Société d'énergie de la Baie James and the Crees regarding work on Phase II of the La Grande complex proceeded normally. In keeping with its commitments under agreements signed with the Cree nation, Hydro-Québec awarded contracts to Cree businesses and bands, creating many temporary jobs for Native people. The utility also continued its program to recruit and train Cree workers for permanent jobs in the James Bay territory, with the objective of hiring 150 permanent Cree personnel by 1996.

- Discussions continued with Native peoples, notably the Inuit of northern Québec, regarding studies now under way on the Grande-Baleine complex. Other subjects being discussed with the Inuit include mechanisms that will enable them to derive economic benefit from the project, and reduce its negative social and cultural impacts. The Cree nation is contesting all new development projects, but allowed Hydro-Québec to hold a number of information sessions.

Land claims. During the year, Hydro-Québec collaborated with the Québec government in its negotiations with the Atikamekw and Montagnais bands regarding land claims.

- The utility makes a constant effort to see that the Native peoples of Québec participate in development projects with implications for territories where land claims are being made, or where traditional activities could be affected. Given the Native peoples' extensive knowledge of local conditions, their input during the study phase is very important. This is made easier by permanent committees set up by Hydro-Québec and Native representatives with a view to ensuring that Native people derive economic benefit from hydroelectric projects and take part in scientific committees to discuss and validate studies, including those concerned with land use.
- An agreement signed with the Montagnais band of Mashteuiatsh (Pointe-Bleue) will help mitigate certain negative impacts of the Radisson-Nicolet-Des Cantons transmission line. The utility's contribution of $900,000 will assist the Montagnais in their social and economic development, and in preserving their traditional activities.

Promoting Social and Community Development

In 1990, Hydro-Québec supported organizations from the educational, cultural, social and economic spheres, and encouraged its employees to participate in community activities and volunteer work.

- The utility sponsored *Nature enjeu*, a television series about the environment, and continued to support MILSET (International Movement for Leisure Activities in Science and Technology) and the *Jeunes Entreprises* program. It also made substantial donations to Québec's postsecondary institutions.

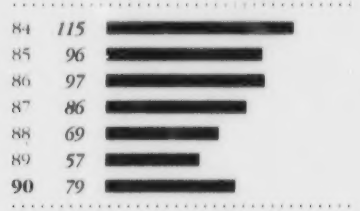
- Hydro-Québec participated financially in the *Carrefour des sciences, des techniques et de l'industrie de Montréal* and FOCIQ 90 *(Foire du commerce et des industries du Québec)*, organized by the Chambre de commerce du Québec. As part of its employment equity program, the utility co-sponsored the first international summit on women and the dimensions of power, held in Montréal in June. Major cultural and arts sponsorships included the 1990 Montréal International Music Festival, the Québec opera *Nelligan*, the Francofolies festival, and the television series *Lumières*.

- Many active and retired employees give their time to humanitarian endeavors. As in past years, the 1990 Centraide community fund-raising campaign drew a strong response. More than $1 million was collected, and donations from active employees were up 15% compared to 1989.

For several years now, Hydro-Québec has been faced with the phenomenon of low runoff and was once again obliged in 1990 to continue exceptional measures to meet the needs of its customers, and raise its energy reserves.

The status of energy reserves had prompted Hydro-Québec to take the following steps in 1989: bring sales of surplus electricity to a virtual halt; increase purchases of electricity from neighboring systems; step up the use of Tracy oil-fired generating station; and buy back dual-energy contracts from commercial, institutional and industrial customers.

Energy Reserve
(in TWh at December 31)



Maximum reserve: 142.4 TWh

These measures resulted, in 1989 and 1990, in revenue losses and additional expenses totaling nearly $600 million. They did, however, in conjunction with near-average hydraulic inflows in 1990, raise energy reserves from 57 TWh at the end of 1989 to 79 TWh at the end of 1990, or 55% of maximum possible reserves.

Impact of Low Runoff
(in $M)

	1989	1990	Total
Revenue losses *			
Reduced deliveries of surplus electricity			
in Québec	4	–	4
outside Québec	44	(14)	30
Temporary halt to dual-energy deliveries	5	101	106
	53	87	140
Costs			
Special electricity purchases	104	174	278
Fuel oil (Tracy)	32	45	77
Compensation payments (dual energy)	76	21	97
	212	240	452
	265	327	592

*According to forecasts originally established for the period 1989-1991, assuming normal runoff.

- Also in 1990, Hydro-Québec made major investments in generating and transmission facilities, to meet new demand for electricity. In addition, it allocated large sums to the programs designed to enhance quality of service, and introduced an energy-efficiency project, encompassing both energy conservation and consumption management.
- Hydro-Québec has to contend with considerable variations in its financial costs, and these were accentuated in 1990 by increased financing requirements, rising interest rates and stronger European currencies. Hedging strategies were, however, successful in lessening the increase in expenses arising from exchange loss.

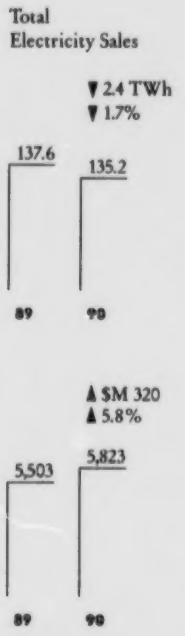
▲ Net income, as forecast at the beginning of the year, was $404 million in 1990, against $565 million in 1989, with more than half the decrease directly attributable to low runoff. An even greater decrease in net income would have been registered, but for increased electricity demand in some sectors in Québec, and the introduction by Hydro-Québec, in May 1990, of an average rate increase of 7.4% in Québec.

▲ The challenge for the coming years will be to restore the overall equilibrium of financial results, so as to improve performance. The utility is relying on a return to average runoff, but it will also be exercising better management of the overall cost of the debt, thanks to the effectiveness of its financial strategies. And the introduction of the *Défi performance* is expected to strengthen the quality of management in all sectors.

Sales Results

Total sales. Total sales volume was 135.2 TWh in 1990, down 2.4 TWh compared to 1989. The decrease is explained by the milder weather in 1990, the virtual halt to sales of surplus electricity outside Québec, and the temporary buyback of dual-energy contracts in the commercial, institutional and industrial sectors. The downward trend was offset, however, to a certain degree by increased needs for electricity in some Québec sectors.

▲ Total sales revenue was up by $320 million, or 5.8%, primarily as a result of rate increases.



Sales of firm electricity in Québec. Overall firm-electricity sales in Québec totaled 126.0 TWh, 1.6 TWh or 1.2% less than in 1989.

▲ This drop in sales is explained in part by the buyback of most non-residential dual-energy contracts from December 1989 to November 1990, because of low runoff. The mild temperatures in 1990 also contributed (-3.5 TWh) to the slowdown in sales, as a high proportion of demand is linked to electric heating.

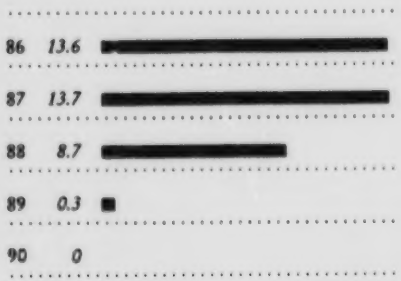
▲ Notwithstanding these two factors, overall needs were up, with new residential and commercial construction and the completion of new projects in electricity-intensive industries such as smelting and refining.

Sales of Firm Electricity in Québec

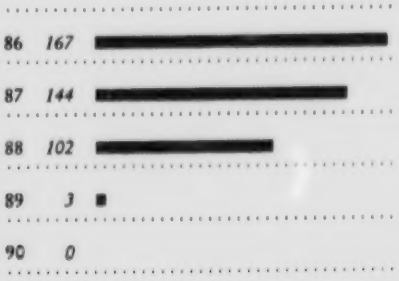
	1990		1989		Variation 1990/1989			
	TWh	$M	TWh	$M	TWh	%	$M	%
Residential and farm	47.0	2,334	47.6	2,215	−0.6	−1.3	119	5.4
General and institutional	28.3	1,568	28.8	1,414	−0.5	−1.5	154	10.9
Industrial	46.0	1,404	46.5	1,356	−0.5	−1.1	48	3.5
Other	4.7	217	4.7	207	–	0.5	10	4.8
Total	126.0	5,523	127.6	5,192	−1.6	−1.2	331	6.4

Sales of Surplus Electricity in Québec

(in TWh)



(in $M)



Revenue from firm-electricity sales in Québec was $5,523 million, an increase of $331 million over 1989, of which rate increases accounted for $319 million.

Sales of surplus electricity in Québec. During 1990, Hydro-Québec sold no surplus electricity in Québec, in an effort to meet priority needs and raise energy reserves.

Sales outside Québec. Despite sustained demand, Hydro-Québec once again limited its sales of surplus energy because of low runoff. Between 1989 and 1990, deliveries to the United States fell from 0.8 TWh to 0.43 TWh, and from 0.1 TWh to 0.02 TWh to neighboring Canadian power systems. Total sales of surplus electricity outside Québec were therefore 0.45 TWh in 1990, compared with 0.9 TWh in 1989.

Sales of Surplus Electricity outside Québec

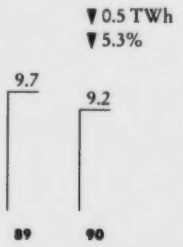
		Canada	United States	Total
86	TWh	*11.4*	*8.6*	20.0
	$M	*203*	*204*	407
87	TWh	*9.7*	*10.8*	20.5
	$M	*196*	*261*	457
88	TWh	*2.0*	*5.7*	*7.7*
	$M	*45*	*150*	195
89	TWh	*0.1*	*0.8*	0.9
	$M	*4*	*25*	29
90	TWh	*0.02*	*0.43*	*0.45*
	$M	*1*	*13*	*14*

- The volume of firm-electricity sales outside Québec was 8.7 TWh, 0.1 TWh less than in 1989.
- Revenue from total sales outside Québec was $300 million in 1990, compared to $308 million in 1989, a drop of 2.7%.

Expenditures

Total expenditure for 1990 was $3,047 million, up 10.4% over 1989. The increase was due in large part to the special program of energy purchases introduced to offset the impact of low run-off. Three other important contributing factors were the re-evaluation of pension expense, the carrying through of programs to improve quality of service, and the revised estimate of the service life of certain fixed assets.

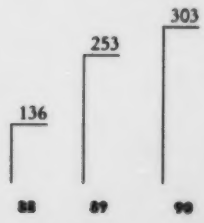
Total Sales Outside Québec



Electricity purchases. For the second year running, Hydro-Québec stepped up purchases from neighboring systems to meet part of its customer demand, and raise energy reserves.

- Special purchases in 1990, primarily from the United States, cost $174 million, up $70 million over 1989, and alone accounted for 57% of overall electricity purchases, which totaled $303 million. These purchases did, however, enable energy reserves to rise by 5.4 TWh.

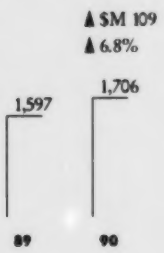
Purchases of Electricity *(in $M)*



Operating expenses. Pension expense was revised considerably upward in 1990, by $51 million, following the review of demographic trends, which are a major determinant of pension expense.

- Hydro-Québec also continued its programs to improve quality of service. Work carried out in 1990, primarily under the Maintenance Enhancement Program and the Service Quality Enhancement Program – Distribution System, required additional expenditure of $47 million.

Operations



- Increased use of Tracy thermal generating station, to offset the impact of low runoff, resulted in additional expense of $13 million for oil consumption.
- And Hydro-Québec launched an energy-efficiency project, encompassing both energy conservation and consumption management measures, that will run until 1999. The project resulted in additional expense of about $10 million in 1990.
- Improved energy reserves, however, made it possible to resume most deliveries to businesses, institutions and industries participating in the dual-energy program. This represented avoided costs of $55 million in new compensation payments.
- Excluding these major factors, the rise in operating expenses was below the general rate of inflation, signaling the determination of the utility to hold down costs. The increase that did occur was primarily due to a greater total salary budget.

Depreciation of fixed assets. Depreciation expense was $677 million for 1990, up $92 million or 15.8% over 1989. Of this amount, $38 million resulted from the revised estimate of the service life of certain fixed assets. An additional factor was the commissioning of new facilities, including the generating units of Manic-5-PA.

Principal Factors Affecting Expenditure in 1990

Special purchases of electricity	$M 70
Re-evaluation of pension expense	$M 51
Programs to enhance quality of service	$M 47
Re-estimated service life of certain fixed assets	$M 38
Increased use of Tracy generating station	$M 13
Energy-efficiency project	$M 10
Compensation to dual-energy customers	– $M 55

Taxes. Taxes totaled $361 million, compared with $324 million in 1989. The two reasons for this increase were the rise in capital tax resulting from additional paid-up capital during the year and the application of a surtax, and an increase in gross revenue, which is subject to tax in the form of real-estate tax on some installations.

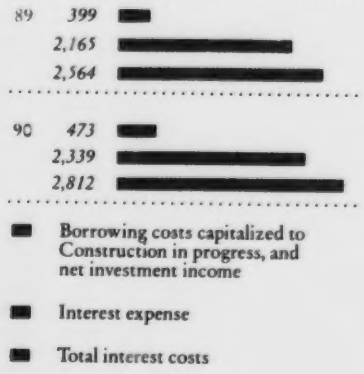
Interest

The financing of new installations was the main reason for the increase in total interest costs, which now stand at $2,812 million.

Interest expense, or total interest costs less interest capitalized to Construction in progress and net investment income, was up by 8.1%, to reach $2,339 million by year-end. This is partly due to commissionings of new installations. At the date of commissioning, interest expense ceases to be capitalized to Construction in progress and is charged to operations.

The rise in interest rates on floating-rate debt, and the decline of the Canadian dollar against European currencies, also pushed up interest expense.

Interest
(in $M)

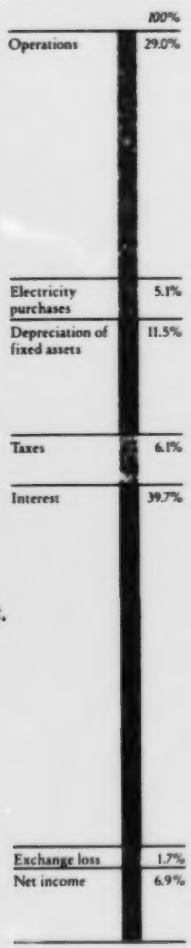


Exchange Loss

Exchange loss was up, from $70 million in 1989 to $95 million in 1990, primarily because of the strength of European currencies against the Canadian dollar, and the movement of the debt.

Exchange loss might have been greater than it was but for Hydro-Québec's timely intervention, and the success of its strategic activities such as transactions on the forward market – generating earnings of $14 million, principally on the German mark and the Swiss franc.

Allocation of Revenue Dollar in 1990



The fluctuation of the Canadian dollar against the U.S. dollar had little effect on exchange loss in 1990, as 92% of debt in U.S. dollars is hedged by continuous future U.S.-dollar revenue streams, partly from export sales and partly from certain sales contracts in Québec's industrial sector. This hedge enables the utility to defer to maturity any exchange gain or loss resulting from currency translation.

Financing

Hydro-Québec was able not only to complete but also to exceed its 1990 borrowing program. The $3,205-million program provided for redemptions of long-term debt totaling $945 million, and calls totaling $81 million, leaving net available funds of $2,179 million.

Moreover, the utility achieved its objective of minimizing financing costs, and managing financial risks in such a way as to reduce their impact on results, by following five strategies.

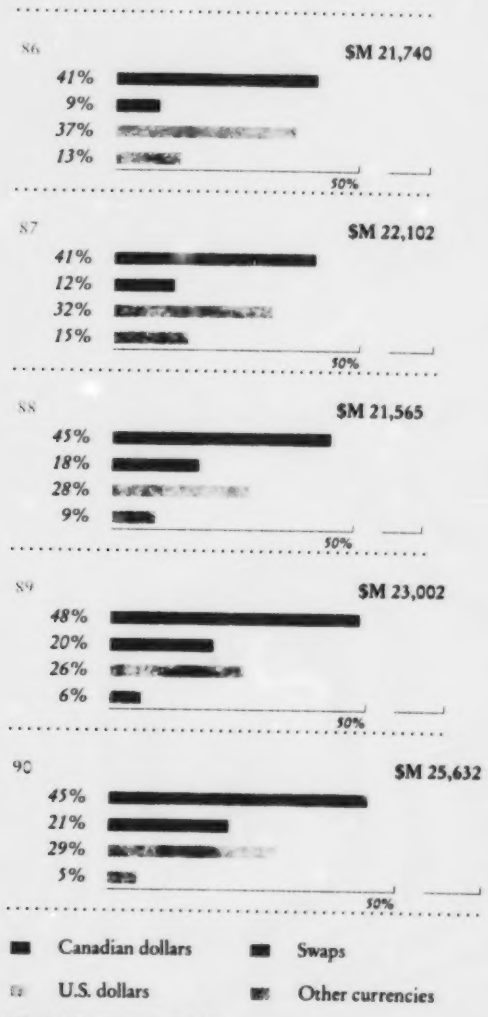
Maximizing the percentage of financing in Canadian dollars. Given Canada's political and economic situation, the utility looked increasingly to foreign capital markets, especially during the first six months of the year. Its excellent credit rating, however, enabled it to negotiate borrowings and swaps at advantageous rates. The proportion of

total debt in Canadian dollars, including swaps, held steady at 66% as of December 31, 1990, compared to 68% on December 31, 1989.

Giving preference to terms of 10 or more years. Borrowings contracted during the year have an average term of 25 years, an achievement without precedent for Hydro-Québec.

Renegotiating outstanding debt when economical to do so. Despite the worldwide increase in interest rates, Hydro-Québec was able to renegotiate advantageously a debt of $80 million. In 1989, it had been able to renegotiate a debt of $187 million.

Breakdown of Total Debt*



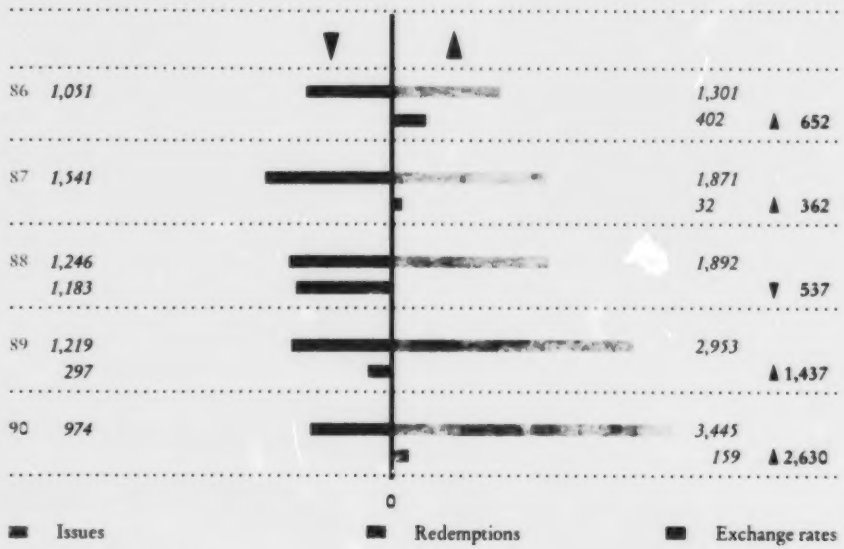
*Excluding perpetual debt.

Reducing the volatility of the cost of debt servicing. A number of swap transactions enabled the utility to transform into Canadian or U.S.-dollar commitments all new 1990 foreign-currency borrowings, thus reducing its exchange-risk exposure. Further swaps enabled Hydro-Québec to transform foreign-currency debt outstanding at December 31, 1989, into Canadian dollar commitments, for a total of $295 million. Taking swaps into account, the proportion of total debt denominated in foreign currencies (excluding the U.S. dollar) was 5% in 1990, compared with 6% in 1989.

Maintaining floating-rate debt at around 12% of total debt. Financing activities in 1990 brought the floating-rate portion of total debt and perpetual debt to 12.5%.

- At December 31, 1990, total debt was $25.6 billion, an increase of $2.6 billion over the end of 1989. Gross volume of 1990 borrowings stood at $3,445 million at December 31. Excluding redemptions of long-term debt totaling $974 million, these borrowings add a further $2,471 million to existing debt.
- The decline in value of the Canadian dollar, especially against European currencies, increased existing debt by $159 million.

Variation in Total Debt*
(in $M)



*Excluding perpetual debt.

Investment in Fixed Assets

The year 1990 saw progress in construction of a number of generating facilities that will be used to meet additional needs for power and energy in the medium term. Phase II of the La Grande complex, which consists of La Grande-1, Laforge-1 and Brisay generating stations, required spending of $572 million. Large sums were also invested in construction of La Grande-2A, and in rebuilding Îles-de-la-Madeleine thermal power station.

- Investment on the Radisson-Nicolet-Des Cantons transmission line, and related buildings and substations, totaled $323 million.
- System-wide improvements also continued. Among ongoing distribution work, $155 million was invested in equipment purchase and renewal, and $139 million in the customer supply program. A further $168 million was allocated to the programs designed to enhance quality of service.
- Total 1990 investment in fixed assets was $3,133 million, against $2,412 million in 1989, an increase of 30%.

Principal Investments in Fixed Assets in 1990
(in $M)

Generating stations	
La Grande-2A	283
La Grande-1	252
Laforge-1	179
Brisay	141
Îles-de-la-Madeleine	129
Transmission	
Radisson-Nicolet-Des Cantons	323
Distribution	
Equipment purchase and upgrading	155
Customer supply	139

Financial Criteria

Financial results have been significantly affected in recent years by low runoff, but the impact was particularly great in 1990, when Hydro-Québec was obliged to reinforce measures taken to raise energy reserves. The additional financing requirements arising from the acceleration of capital investment also affected the year's results.

- As the utility had forecast at the beginning of the year, most of the financial ratios were down in 1990. The decline in net income, and the increase in the debt and associated interest expense, are the main factors responsible for this.

- Interest coverage fell from 1.12 at year-end 1989, to 1.04 at year-end 1990. The fall in net income affected profit margin and return on equity, which were 6.9% and 4.8%, respectively, at December 31, 1990, compared with 10.2% and 7.0% in 1989.
- The capitalization ratio fell below the threshold of 25%, reaching 24.8% at December 31, 1990. Therefore, under the terms of the *Hydro-Québec Act*, the utility's sole shareholder, the Québec government, is not entitled to declare dividends for 1990.
- As the utility will pay no dividend in 1990, the self-financing ratio is up from 30.0% at December 31, 1989, to 30.7% at December 31, 1990.

Financial Position of the Retirement Fund

The net assets of the Hydro-Québec Retirement Fund rose from $3,024 million at year-end 1989 to $3,289 million at year-end 1990, an increase of $265 million.

- In accordance with the fund's portfolio diversification objective, net purchases of stocks totaling $300 million were completed during the year. At market value, stocks therefore made up over 40% of the portfolio at December 31, 1990, a portfolio mix which reflects the average mix of Canadian retirement funds. The addition, shortly, of a real-estate component will help improve the risk-return ratio of the portfolio as a whole.
- The book-value rate of return of the retirement fund portfolio was 7.4% in 1990, compared with 10.7% in 1989. By definition, the book-value rate of return only takes account of capital gains or losses when they are realized.
- In 1990, pension benefits, refunds and transfers paid out totaled $107 million, compared with $87 million in 1989. The number of beneficiaries increased from 5,842 at December 31, 1989, to 6,054 at December 31, 1990.
- The actuarial valuation carried out in 1990 for financing purposes showed a net surplus of $200 million for the overall Hydro-Québec Retirement Fund at December 31, 1989.

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Management Report

Hydro-Québec's consolidated financial statements and all additional information contained in the Annual Report are the responsibility of management and were approved by the Board of Directors. Management's responsibility includes the selection of appropriate accounting practices in accordance with generally accepted accounting principles, and the preparation of reasonable estimates. Financial data contained elsewhere in the Annual Report are consistent with the financial statements.

Management, in keeping with its responsibilities, maintains an internal control system, designed among other things to provide reasonable assurance that Hydro-Québec's assets are safeguarded and that the financial records form an appropriate basis for the preparation of reliable financial statements.

Every year, the Board of Directors appoints an Audit Committee. This committee is responsible for ensuring that the financial statements present fairly Hydro-Québec's financial position, changes in financial position, and results of operations. The committee also studies reports on the utility's accounting methods and policies and internal control systems.

In the opinion of management, these financial statements incorporate, within reasonable limits, all important elements and data available at January 31, 1991.

Richard Drouin, Q.C.
Chairman of the Board
and Chief Executive Officer

Claude Boivin
President
and Chief Operating Officer

Auditors' Report

To the Gouvernement du Québec,

We have audited the consolidated balance sheet of Hydro-Québec as at December 31, 1990 and the consolidated statements of operations, retained earnings and changes in financial position for the year then ended. These financial statements are the responsibility of Hydro-Québec's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these consolidated financial statements present fairly, in all material respects, the financial position of Hydro-Québec as at December 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.

Samson Bélair
Deloitte & Touche

Montréal, Canada
January 31, 1991

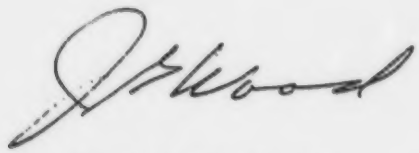
Samson Bélair
Deloitte & Touche
Chartered Accountants

Consolidated Statement of Operations

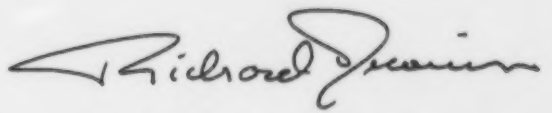
(in millions of dollars)	For the year ended December 31 1990	1989
Revenue		
Sales of electricity (Note 2)	$5,823	$5,503
Other operating revenue	62	56
	5,885	5,559
Expenditure		
Operations	1,706	1,597
Electricity purchased	303	253
Depreciation of fixed assets	677	585
Taxes (Note 3)	361	324
	3,047	2,759
Income before interest and exchange loss	2,838	2,800
Interest (Note 4)	2,339	2,165
Exchange loss	95	70
	2,434	2,235
Net income	$ 404	$ 565

Consolidated Balance Sheet

ASSETS *(in millions of dollars)*	As at December 31 1990	1989
Fixed assets		
Property and plant (Note 5)		
In service	$34,012	$31,415
Less accumulated depreciation	5,509	4,898
	28,503	26,517
Construction in progress	4,752	4,293
	33,255	30,810
Current assets		
Cash and temporary investments	760	571
Accounts receivable	1,236	1,172
Materials, fuel and supplies	312	289
	2,308	2,032
Other assets		
Investments (Note 6)	192	153
Deferred expenses (Note 7)	929	878
	1,121	1,031
	$36,684	$33,873



Jeannine Guillevin Wood
Chairperson of the Audit Committee



Richard Drouin, Q.C.
Chairman of the Board
and Chief Executive Officer

Montréal, Canada
February 7, 1991

Liabilities and Shareholder's Equity *(in millions of dollars)*	As at December 31 1990	1989
Long-term debt (Note 8)	$24,072	$21,957
Current liabilities		
Notes payable	16	18
Accounts payable	914	1,011
Dividends payable	–	182
Accrued interest	920	865
Long-term debt payable within one year (Note 8)	1,560	1,045
	3,410	3,121
Other liability		
Decommissioning of nuclear generating station (Note 9)	13	10
Perpetual debt (Note 10)	552	552
Shareholder's equity		
Share capital		
Authorized 50,000,000 shares, par value of $100 each		
Issued and fully paid 43,741,090 shares	4,374	4,374
Retained earnings	4,263	3,859
	8,637	8,233
	$36,684	$33,873

Consolidated Statement of Retained Earnings

(in millions of dollars)	For the year ended December 31 1990	1989
Balance at beginning of year	$3,859	$3,476
Net income	404	565
	4,263	4,041
Dividends (Note 11)	–	182
Balance at end of year	$4,263	$3,859

Consolidated Statement of Changes in Financial Position

(in millions of dollars)	For the year ended December 31 1990	1989
Cash provided from operations		
Net income	$ 404	$ 565
Depreciation of fixed assets	677	585
Amortization of deferred expenses	204	181
Difference between pension expense and contributions	(13)	(66)
Other	2	24
	1,274	1,289
Net change in other current assets or current liabilities (Note 12)	(311)	111
Dividends	–	(182)
	963	1,218
Cash provided from financing		
Issue of long-term debt	3,378	2,894
Redemption of long-term debt	(972)	(1,223)
	2,406	1,671
Cash used for investment		
Fixed assets	(3,133)	(2,412)
Grants under sales programs	(17)	(32)
Other	(28)	(21)
	(3,178)	(2,465)
Change in cash during year	191	424
Cash at beginning of year	553	129
Cash at end of year	$ 744	$ 553

Cash comprises Cash and temporary investments less Notes payable.

Significant accounting policies

a) Hydro-Québec mandate and rates

Under the provisions of its Act, Hydro-Québec has the mandate to supply power and to pursue endeavors in energy-related research and promotion, energy conversion and conservation, and any field connected with or related to power or energy. The rates and conditions under which power is supplied must be consistent with sound financial administration. The *Hydro-Québec Act* stipulates that the rates must be maintained at a level sufficient to defray at least all operating expenditures, interest on debt, and depreciation of fixed assets over a maximum period of 50 years. The rates are established by Hydro-Québec and are subject to the approval of the Gouvernement du Québec.

b) Consolidation

The consolidated financial statements include the financial statements of Hydro-Québec and its subsidiary companies.

c) Sales of electricity

Revenue from sales of electricity is recorded on the basis of cyclical billings. It is also accrued in respect of electricity delivered but as yet unbilled.

d) Property and plant

Property and plant include generating, transmission and distribution facilities and administration and service buildings, as well as construction, operating and research equipment. They are carried at cost, which comprises material, direct and indirect labor, and an appropriate proportion of the administration overhead, and engineering and management expenses capitalized during construction. The cost also includes borrowing costs capitalized to Construction in progress as explained in (f) hereinafter.

Upon disposal of asset units, the cost of the units and of their dismantlement, net of accumulated depreciation and salvage value, are charged to a separate account and amortized over 10 years according to the sinking fund method of depreciation, based on an interest rate of 3%. However, when the disposed asset units are replaced, the dismantlement cost, less the salvage value, is added to the cost of the new units and then depreciated according to the method and depreciable life appropriate to the new asset.

The costs of generating facilities, up to an amount equal to the accumulated cost at date of transfer, are transferred to Property and plant in service in instalments equal to the number of generating units completed and in service as a proportion of the total number scheduled for the new facility, on the basis of the present value of the total estimated cost. The costs of transmission, distribution and other facilities are transferred to Property and plant in service when these facilities are completed and in commercial operation.

Note 1

Significant accounting policies (continued)

e) Depreciation

Hydro-Québec uses the sinking fund method of providing for depreciation of its fixed assets (other than construction, operating and research equipment), based on an interest rate of 3% and the following expected service lives:

Hydraulic powerhouses, dams, reservoirs, transmission towers (steel) and conductors, and administration and service buildings	50 years
Hydraulic turbines and generators and distribution conductors	40 years
Nuclear generating station and its turbine, generator and reactor	30 years
Distribution poles	25 years

Construction, operating and research equipment is depreciated over its expected service life according to the straight-line method.

f) Borrowing costs capitalized to Construction in progress

Borrowing costs are added to the cost of construction in progress at a rate equivalent to the weighted average of the effective interest rates on Hydro-Québec's debt securities issued to finance such construction and include the exchange loss on the principal amount of these debt securities. This rate was 9.88% in 1990 and 10.30% in 1989.

g) Research and development

Preliminary engineering, investigation and survey costs incurred on projects before authorization for their construction is obtained are charged to operating expenditure. The cost of research and development related to alternative energy sources, or not related to a specific project, is also charged to operations.

h) Materials, fuel and supplies

Inventories of materials, fuel and supplies are valued on an average cost basis.

i) Investments

Investments are shown at cost. The cost of temporary investments approximates market value.

j) Foreign currency translation

Revenue and expenditure resulting from transactions made in foreign currencies are translated into the Canadian dollar equivalent at exchange rates in effect at the transaction date. Monetary assets and liabilities are translated into Canadian dollars at exchange rates in effect at the balance sheet date, and non-monetary items are translated into Canadian dollars at exchange rates in effect at the transaction date. However, monetary items covered by monetary agreements against exchange risks are translated into Canadian dollars at the exchange rates established under the conditions of the relevant agreement.

Significant accounting policies (continued)

The exchange gains or losses resulting from these translations are included in the Consolidated Statement of Operations; those pertaining to the capital of long-term debt are deferred and amortized on a straight-line basis over the remaining life of the debt securities, except when they relate to debt securities hedged by future revenue streams in United States dollars, in which case they are deferred until the date of repayment of such debt.

k) Grants under sales programs

In the framework of its plan to expand the Québec market, Hydro-Québec has implemented assistance programs for the marketing of electricity. The grants for these programs are deferred and amortized on a straight-line basis over a period not exceeding five years starting the year after the year in which the grants are made.

l) Debt-security discount and expenses

Debt-security discount and expenses are deferred and amortized on a straight-line basis over the life of the debt to which they apply.

m) Sinking funds

The sinking funds are formed through the purchase of Hydro-Québec debentures, or bonds issued or guaranteed by the Québec and Canadian governments. These funds are deducted from long-term debt. Government issued or guaranteed bonds are carried at cost; Hydro-Québec debentures are carried at par, which may not be indicative of cost or current market value. The gain or loss resulting from the redemption of these debentures and bonds is included with Interest (see Note 4). The unamortized discount and expenses are written off when these debt securities are cancelled.

n) Dividends

The dividends declared by the Gouvernement du Québec (see Note 11) are deducted from the retained earnings of the year for which they were declared.

o) Decommissioning of nuclear generating station

The estimated future costs of decommissioning the Gentilly-2 nuclear generating station are charged to operations, and comprise the total of the following:

- The present value of the estimated dismantlement cost, allocated on a straight-line basis over the remaining life of the generating station,
- The present value of the expected cost for final disposal of the irradiated fuel, allocated proportionately to the consumption of the fuel,
- Interest calculated on the amounts charged in preceding years, at the rate used to discount the amounts hereinabove.

Note 1

Significant accounting policies (continued)

These costs are revised periodically in accordance with the various assumptions and estimates underlying the calculations, and with any technological advances that may arise in the decommissioning of nuclear generating stations.

p) Pension expense

The costs of the retirement plan are determined periodically by independent actuaries. Pension expense is charged to operations and comprises the total of the following:

- The cost of pension benefits provided in exchange for employees' services rendered during the year, as calculated using the projected benefit method pro rated on services, and
- Amortization over the employees' expected average remaining service life, according to the level annual contribution method, of (i) adjustments arising from changes in the plan or in assumptions, (ii) experience gains or losses, and (iii) the plan surplus determined upon adoption of the 1986 recommendations of the Canadian Institute of Chartered Accountants.

The cumulative difference between pension expense and contributions made to the Retirement Fund is reflected in Deferred expenses.

Note 2

Sales of electricity

Sales of electricity include $181 million from sales to the United States ($194 million in 1989).

Note 3

Taxes

(in millions of dollars)	1990	1989
Capital tax	$178	$157
Tax on gross revenue as municipal real estate tax on certain immovables	154	141
Real estate taxes	29	26
	$361	$324

Note 4

Interest

(in millions of dollars)	1990	1989
Interest on debt securities	$2,790	$2,536
Amortization of debt-security discount and expenses	23	22
(Net gain) net loss on redemption of long-term debt	(1)	6
	2,812	2,564
Less		
Borrowing costs capitalized to Construction in progress	385	323
Net investment income	88	76
	473	399
	$2,339	$2,165

Note 8

Property and plant

(in millions of dollars)	1990			1989		
	Property and plant in service	Accumulated depreciation	Construction in progress	Property and plant in service	Accumulated depreciation	Construction in progress
Generation						
Hydraulic	$14,580	$2,140	$2,658	$14,033	$1,946	$2,007
Nuclear	1,471	233	19	1,468	192	11
Other	413	185	217	387	167	44
	16,464	2,558	2,894	15,888	2,305	2,062
Transmission						
Substations	3,972	525	886	3,397	455	927
Lines	4,777	642	588	4,246	586	828
	8,749	1,167	1,474	7,643	1,041	1,755
Distribution						
Substations	1,110	211	30	1,091	193	23
Lines	4,901	699	113	4,291	603	261
	6,011	910	143	5,382	796	284
Other						
Administration and service buildings	934	107	83	862	88	39
Equipment	1,030	552	39	918	501	14
Sundry	824	215	119	722	167	139
	2,788	874	241	2,502	756	192
Total	$34,012	$5,509	$4,752	$31,415	$4,898	$4,293

Note 6

Investments

(in millions of dollars)	1990	1989
Churchill Falls (Labrador) Corporation Limited (see Note 14)		
General Mortgage Bonds, 7½%, due 1991 through 2010 (par value $80 million in 1990 and $82 million in 1989)	$ 73	$ 74
Common shares	34	34
	107	108
Other	85	45
	$192	$153

Note 7

Deferred expenses

(in millions of dollars)	1990	1989
Unrealized exchange loss	$165	$120
Grants under sales programs	127	170
Debt-security discount and expenses	270	229
Pension expense	304	291
Other	63	68
	$929	$878

Note 8

Long-term debt

Hydro-Québec's long-term debt is guaranteed by the Province de Québec, except for an amount of $174 million ($169 million in 1989).

Debenture and other long-term debt maturities and sinking fund requirements, translated into Canadian dollars, are shown in the following table:

Note 8

Long-term debt (continued)

Years of maturity	1990 (in millions of dollars)	1990 Weighted average interest rate	1989 (in millions of dollars)	1989 Weighted average interest rate
1990	$ –		$ 1,045	
1991	1,560		1,531	
1992	1,714		1,698	
1993	975		1,050	
1994	1,321		1,044	
1995	957		–	
1 - 5 years	6,527	13.16%	6,368	13.08%
6 - 10 years	6,825	10.52%	6,282	10.09%
11 - 15 years	4,075	10.26%	3,138	9.93%
16 - 20 years	1,952*	10.39%	2,824	10.74%
21 - 25 years	2,498	10.60%	2,268	10.94%
26 - 30 years	970*	10.17%	509	10.16%
31 - 35 years	–	–	–	–
36 - 40 years	2,785	8.89%	1,613	8.50%
	25,632	10.99%	23,002	10.97%
Less Portion payable within one year	1,560		1,045	
	$24,072		$21,957	

*Includes $35 million and $17 million in zero-coupon bonds, recorded at their discounted value at the effective rate of return of 10.95%. Their par value will reach $282 million and $404 million in 2010 and 2020 respectively.

Note 8

Long-term debt (continued)

Repayments to be made in Canadian dollars and in foreign currencies, with their Canadian dollar equivalent, are shown in the following table:

	(in millions of units)			1990 Total (in millions of dollars)	1989 Total (in millions of dollars)
	1991 to 1995	1996 to 2030	Total	1991 to 2030	1990 to 2029
Canadian dollars	2,134	9,358	11,492	$11,492	$11,138
At rates established according to conditions of monetary agreement					
United States dollars	2,018	350	2,368	3,039	2,983
Deutsche marks	718	801	1,519	966	447
Swiss francs	325	501	826	579	439
Yen	25,000	20,450	45,450	412	412
Pounds sterling	75	–	75	174	174
ECUs	–	125	125	157	157
				16,819	15,750
At rates in effect at balance sheet date					
United States dollars	398	6,104	6,502*	7,543	6,027
Deutsche marks	245	182	427	331	518
Swiss francs	28	231	259	235	354
Pounds sterling	–	300	300	632	280
Guilders	75	30	105	72	73
				8,813	7,252
				$25,632	$23,002

*A proportion of 92% (91% in 1989) is hedged by future revenue streams in United States dollars.

Note 8

Long-term debt (continued)

Hydro-Québec has two undrawn revolving standby credits for U.S.$400 million and U.S.$750 million which expire in 1993 and 1994 respectively. Any borrowing under these lines of credit will bear interest at a rate based on the London Interbank Offered Rate (LIBOR).

Note 9

Decommissioning of nuclear generating station

(in millions of dollars)	1990	1989
Dismantlement of Gentilly-2 nuclear generating station	$ 2	$ 1
Final disposal of irradiated fuel	11	9
	$13	$10

Note 10

Perpetual debt

Perpetual notes in the amount of U.S.$400 million bear interest at a rate based on the London Interbank Offered Rate (LIBOR) established twice yearly. They are guaranteed by the Province de Québec and are redeemable, at Hydro-Québec's option only, beginning in 1991. These notes are shown in Canadian dollars at the exchange rate in effect at date of issue ($464 million at exchange rate in effect at balance sheet date).

Note 11

Restrictions on dividends

Under the *Hydro-Québec Act*, the dividends to be paid by Hydro-Québec are declared once a year by the Gouvernement du Québec, which also determines the terms and conditions of payment. For a given financial year, they cannot exceed the distributable surplus, which is established as follows: 75% of income before interest and exchange loss and the year's net investment income, less interest on debt securities and amortization of debt-security discount and expenses. This calculation is made on the basis of the consolidated financial statements.

Note 11

Restrictions on dividends (continued)

- However, in respect of a given financial year no dividend may be declared in an amount that would have the effect of reducing the rate of capitalization to less than 25% at the end of the year concerned. This rate corresponds to the ratio between shareholder's equity (less dividends declared for the year) and the total of long-term debt, notes payable, perpetual debt and shareholder's equity (less dividends declared for the year).
- The government declares the dividends for a given year within 30 days after the transmission by Hydro-Québec to the government of the financial data relative to the distributable surplus. On expiry of the time prescribed, any distributable surplus or part thereof which has not been subject to a dividend declaration may no longer be distributed to the shareholder as a dividend.

Note 12

Net change in other current assets or current liabilities

(in millions of dollars)	1990	1989
(Increase) in current assets		
Accounts receivable	$ (64)	$(171)
Materials, fuel and supplies	(23)	(47)
	(87)	(218)
Increase (decrease) in current liabilities		
Accounts payable	(97)	338
Dividends payable	(182)	(118)
Accrued interest	55	109
	(224)	329
	$(311)	$111

Note 13

Retirement plan

The Hydro-Québec Retirement Plan is a contributory, defined benefit pension plan based on final pay, under which benefits payable are guaranteed by Hydro-Québec. At December 31, 1990, 23,999 employees were contributing to the plan. An actuarial valuation was made in 1990 in order to determine the present value of accrued benefits based on employees' expected basic salary until retirement. The retirement fund assets are valued at market-related values.

At December 31, 1990, the date of the most recent valuation, the retirement plan showed a surplus as follows:

	(in millions of dollars)
Retirement fund assets	$3,488
Present value of accrued benefits	(3,242)
Excess special contributions made by Hydro-Québec	(6)
Surplus	$ 240

For the year ended December 31, 1990, pension expense amounted to $89 million ($27 million in 1989).

Note 14

Commitments and projected capital expenditures

Churchill Falls

On May 12, 1969, Hydro-Québec signed a contract with Churchill Falls (Labrador) Corporation Limited (CF(L)Co) whereby Hydro-Québec undertook to purchase virtually all the power generated at the Churchill Falls generating station for a period of 40 years from September 1, 1976, except for an amount not to exceed 300,000 kilowatts of such power which may be recaptured by CF(L)Co. This contract will be automatically renewed for a further period of 25 years upon already agreed terms.

By this contract, Hydro-Québec undertook to make payment for energy whether or not taken, subject to certain limitations and compensations, and to pay CF(L)Co an amount equal to a portion of the interest charges on the debt incurred by CF(L)Co to finance the construction of the plant as well as an amount equal to a portion of the losses on foreign exchange incurred to service the debt issued in United States dollars. Hydro-Québec can also be required to make additional advances, against the issue of units of Subordinate Debentures and shares of Common Stock, to service the debt of CF(L)Co and to cover its expenses if funds are not otherwise available.

Projected capital expenditures

Hydro-Québec plans call for capital expenditures in the amount of $4,350 million for 1991.

Note 15

Reclassification

Some of the figures for 1989 were reclassified in order to conform to the presentation adopted in 1990.

Consolidated Results and Financial Ratios

(in millions of dollars)	1990	1989	1988	1987	1986
Revenue					
Sales of electricity	$5,823	$5,503	$5,223	$5,040	$4,673
Other operating revenue	62	56	55	28	39
	5,885	5,559	5,278	5,068	4,712
Expenditure					
Operations	1,706	1,597	1,391	1,219	1,107
Electricity purchased	303	253	136	110	118
Depreciation of fixed assets	677	585	538	500	464
Taxes	361	324	295	289	272
	3,047	2,759	2,360	2,118	1,961
Income before interest and exchange loss	2,838	2,800	2,918	2,950	2,751
Interest					
Interest on debt securities	2,790	2,536	2,338	2,392	2,388
Amortization of debt-security discount and expenses	23	22	21	21	24
(Net gain) net loss on redemption of long-term debt	(1)	6	3	5	5
Borrowing costs capitalized to Construction in progress	(385)	(323)	(257)	(192)	(128)
Net investment income	(88)	(76)	(55)	(56)	(30)
	2,339	2,165	2,050	2,170	2,259
Exchange loss	95	70	249	272	189
	2,434	2,235	2,299	2,442	2,448
Net income	$ 404	$ 565	$ 619	$ 508	$ 303
Declared dividends	–	$ 182	$ 300	–	–
Contribution (taxes and dividends) to provincial and municipal government revenue	$ 361	$ 506	$ 595	$ 289	$ 272
Financial ratios					
Interest coverage	1.04	1.12	1.26	1.25	1.15
Capitalization (%)	24.8	25.9	26.2	24.9	24.0
Self-financing (%)	30.7	30.0	34.0	41.0	40.6
Return on equity (%)	4.8	7.0	8.0	7.0	4.4
Profit margin (%)	6.9	10.2	11.7	10.0	6.4

$$\text{Interest coverage} = \frac{\text{Income before interest and exchange loss + Net investment income}}{\text{Gross interest charges}}$$

$$\text{Capitalization} = \frac{\text{Shareholder's equity}}{\text{Shareholder's equity + Long-term debt + Perpetual debt + Notes payable + Long-term debt payable within one year}}$$

$$\text{Self-financing} = \frac{\text{Cash provided from operations – Declared dividends}}{\text{Investments + Redemption of long-term debt}}$$

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Shareholder's equity (year's average)}}$$

$$\text{Profit margin} = \frac{\text{Net income}}{\text{Revenue}}$$

Operating Statistics

(in millions of kilowatthours)	1990	1989	1988	1987	1986	Average annual increase (%) 1990/1985
Electricity sales						
Firm in Québec:						
Residential and farm	46,993	47,607	43,697	40,412	40,548	4.1
General and institutional	28,314	28,750	26,580	23,941	22,235	6.4
Industrial	46,009	46,503	44,821	41,698	36,512	6.0
Other	4,713	4,688	4,689	4,362	4,241	3.1
	126,029	127,548	119,787	110,413	103,536	5.2
Surplus in Québec:						
General	–	24	1,118	1,298	1,395	–
Industrial	–	274	7,547	11,189	11,082	–
Neighboring systems	5	8	58	1,253	1,176	(66.8)
	5	306	8,723	13,740	13,653	(79.0)
Deliveries outside Québec:						
Firm electricity	8,752	8,830	9,164	8,313	6,980	4.9
Surplus electricity	451	886	7,720	20,456	19,954	(51.8)
	9,203	9,716	16,884	28,769	26,934	(17.6)
Total sales	135,237	137,570	145,394	152,922	144,123	0.2
Revenue from electricity sales *(in millions of dollars)*						
Firm in Québec:						
Residential and farm	$2,334	$2,215	$1,965	$1,768	$1,683	8.6
General and institutional	1,568	1,414	1,282	1,127	1,026	10.8
Industrial	1,404	1,356	1,205	1,106	978	9.2
Other	217	207	198	182	170	6.7
	5,523	5,192	4,650	4,183	3,857	9.3
Surplus in Québec:						
General	–	–	15	15	20	–
Industrial	–	3	86	113	135	–
Neighboring systems	–	–	1	16	12	–
	–	3	102	144	167	–
Deliveries outside Québec:						
Firm electricity	286	279	276	256	242	5.6
Surplus electricity	14	29	195	457	407	(50.2)
	300	308	471	713	649	(14.9)
Total revenue	$5,823	$5,503	$5,223	$5,040	$4,673	5.7
Number of customer accounts at December 31						
Residential and farm	2,862,225	2,802,418	2,753,717	2,676,810	2,599,403	2.5
General and institutional	268,200	263,380	258,020	250,366	242,559	2.7
Industrial	12,961	13,210	13,368	13,088	13,045	(0.2)
Other	7,152	7,117	7,160	7,168	7,415	(1.2)
Total	3,150,538	3,086,125	3,032,265	2,947,432	2,862,422	2.5
Changes in number of employees*						
Permanent at December 31	20,067	19,437	19,252	18,933	18,470	2.0
Women	4,118	3,853	3,751	3,621	3,504	3.6
Temporary (year's average)	5,222	4,425	3,521	2,989	2,749	10.5

* These figures exclude employees on loan to subsidiaries.

Unit Revenue, Unit Expenditure, and Other Ratios

	1990	1989	1988	1987	1986
Unit revenue – electricity sales					
(in cents per kilowatthour)					
Firm in Québec:					
Residential and farm	4.38	4.07	3.88	3.79	3.73
General and institutional	4.97	4.65	4.50	4.38	4.15
Industrial	5.54	4.92	4.82	4.71	4.61
Other	3.05	2.92	2.69	2.65	2.68
Surplus in Québec	4.61	4.42	4.22	4.16	4.01
Québec sales	–	1.09	1.17	1.05	1.23
	4.38	4.06	3.70	3.48	3.43
Firm outside Québec	3.26	3.16	3.01	3.07	3.47
Surplus outside Québec	3.06	3.20	2.52	2.24	2.04
Sales outside Québec	3.25	3.17	2.79	2.48	2.41
Unit revenue – total sales	4.31	4.00	3.59	3.30	3.24
Unit expenditure					
(in cents per kilowatthour)					
Expenditure:					
Operations	1.26	1.16	0.96	0.79	0.77
Electricity purchased	0.22	0.18	0.09	0.07	0.08
Depreciation of fixed assets	0.50	0.43	0.37	0.33	0.32
Taxes	0.27	0.24	0.20	0.19	0.19
	2.25	2.01	1.62	1.38	1.36
Interest and exchange loss:					
Interest	1.73	1.57	1.41	1.42	1.57
Exchange loss	0.07	0.05	0.17	0.18	0.13
	1.80	1.62	1.58	1.60	1.70
Total unit expenditure	4.05	3.63	3.20	2.98	3.06
Total assets at December 31					
(in dollars per customer account)	11,644	10,976	10,458	10,735	10,686
Long-term debt at December 31					
(in dollars per customer account)	7,640	7,115	6,786	7,192	7,109
Annual investment					
(in dollars per customer account)	1,009	799	695	572	547
Average annual consumption – residential and farm sector					
(in kilowatthours per customer account)	16,592	17,137	16,093	15,318	15,817
Average rate increase, May 1st – all categories *(%)*	7.4	4.3	3.9	4.6	5.4
Representation of women* – permanent employees*					
at December 31 *(%)*	20.5	19.8	19.5	19.1	19.0

* These figures exclude employees on loan to subsidiaries.

*Energy and Power Requirements of System**

		(in millions of kilowatthours)	1990	1989	1988	1987	1986	in 1
Energy requirements	**Total requirements**							
	Generated (gross)		115,043	125,109	130,136	137,730	128,078	
	McCormick generation		1,691	2,013	2,076	2,283	2,046	
	Received:							
	Purchased		31,679	28,389	31,754	30,422	30,892	
	Received as per agreement		4,314	3,505	2,948	2,118	1,940	
	Total requirements		35,993	31,894	34,702	32,540	32,832	
			152,727	159,016	166,914	172,553	162,956	
	Québec requirements							
	Firm electricity		126,029	127,548	119,787	110,413	103,536	
	Deliveries as per agreement		5,133	5,166	4,145	3,085	3,118	
	McCormick generation		1,691	2,013	2,076	2,283	2,046	
	Total priority consumption		132,853	134,727	126,008	115,781	108,700	
	Generating-station service		668	688	592	500	514	
	Losses and other		9,323	12,968	13,191	11,122	10,655	
	Total priority requirements		142,844	148,383	139,791	127,403	119,869	
	Surplus electricity		5	306	8,723	13,740	13,653	
	Generating-station service		–	1	42	59	63	
	Losses and other		–	18	457	798	773	
	Total Québec requirements		142,849	148,708	149,013	142,000	134,358	
	Deliveries outside Québec							
	Firm electricity		8,752	8,830	9,164	8,313	6,980	
	Surplus electricity		451	886	7,720	20,456	19,954	
	Deliveries as per agreement		346	180	41	(12)	29	
	Generating-station service		31	36	80	124	127	
	Losses and other		298	376	896	1,672	1,508	
	Total deliveries outside Québec		9,878	10,308	17,901	30,553	28,598	
	Total requirements		152,727	159,016	166,914	172,553	162,956	

Power requirements for the winter beginning in December**

	(in thousands of kilowatts)	1990	1989	1988	1987	1986	incr 1
Total requirements		28,494	27,934	27,551	28,588	26,277	
Priority requirements		27,522	27,349	26,768	26,347	23,492	

Total installed capacity***

	(in thousands of kilowatts)	1990	1989	1988	1987	1986	incr 1
Installed capacity		25,682	25,126	24,590	24,533	24,475	

* The figures before 1990 have been revised to reflect Hydro-Québec's commitments to Compagnie Hydroélectrique Manicouagan.

** The power requirements of 1990 correspond to data available at February 5, 1991. These requirements include all interruptible power.

*** In addition to the installed capacity of its own generating stations, Hydro-Québec also has access to most of the generation of the Churchill Falls power plant, which has a nominal capacity of 5,428 megawatts.

Auditors' Report

To the Administrators,

We have examined the statement of net assets of the Hydro-Québec Retirement Fund as at December 31, 1990, and the statement of changes in net assets, for the year then ended. These financial statements are the responsibility of Hydro-Québec, as the Retirement Fund's trustee. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the net assets of the Hydro-Québec Retirement Fund as at December 31, 1990, and the changes in its net assets for the year then ended in accordance with generally accepted accounting principles.

Samson Bélair
Deloitte & Touche

Samson Bélair
Deloitte & Touche
Chartered Accountants

Montréal, Canada
January 31, 1991

Statement of Net Assets

(in millions of dollars)	As at December 31 1990	1989
Investments (Note 2)		
Bonds or debentures (Note 3)	**$1,268**	$1,392
Shares	**1,381**	1,081
Deep-discount investments guaranteed by the Government of Canada or by the provinces	**217**	230
Mortgage loans	**76**	69
Cash and short-term investments	**303**	223
	3,245	2,995
Dividends and interest receivable	**42**	40
Accounts receivable	**7**	10
	3,294	3,045
Less		
Excess special contributions made by Hydro-Québec (Note 4)	**5**	21
	$3,289	$3,024

On behalf of Hydro-Québec,

Jeannine Guillevin Wood
Chairperson of the Audit Committee

Richard Drouin, Q.C.
Chairman of the Board and Chief Executive Officer

Montréal, Canada
February 7, 1991

Statement of Changes in Net Assets

(in millions of dollars)	For the year ended December 31 1990	1989
Balance at beginning of year	**$3,024**	**$2,689**
Increase		
Revenue from investments	225	293
Contributions		
Employees	45	39
Hydro-Québec	86	77
	131	116
Supplementary plans' special contribution (Note 4)	16	16
	372	425
	3,396	3,114
Decrease		
Excess special contributions made by Hydro-Québec (Note 4)	–	3
Benefits paid, refunds and transfers	107	87
	107	90
Balance at end of year	**$3,289**	**$3,024**

Note 1 **December 31, 1990**

Significant accounting policies

These statements show only the net assets of the Hydro-Québec Retirement Fund, and do not purport to show the adequacy of the Fund to meet the obligations of the Hydro-Québec Retirement Plan, which are guaranteed by Hydro-Québec.

a) Investments

Bonds and debentures

Bonds and debentures are shown at amortized cost. Gains or losses on sales of bonds and debentures are calculated on an average amortized cost basis.

Shares

Shares are shown at cost. Revenue is recorded at the ex-dividend date. Gains or losses on sales of shares are calculated on an average cost basis.

Deep-discount investments

Deep-discount investments are shown at amortized cost.

Mortgage loans

Mortgage loans are shown at their principal balance outstanding.

Short-term investments

Short-term investments are shown at cost.

b) Recording of transactions

Revenue from investments, contributions and benefits are accounted for on an accrual basis.

c) Foreign currency translation

Revenue resulting from transactions made in foreign currencies is translated into the Canadian dollar equivalent at exchange rates in effect at the transaction date. Cash, short-term investments, dividends and interest receivable are translated into Canadian dollars at exchange rates in effect at the balance sheet date. Shares are translated into Canadian dollars at exchange rates in effect at the transaction date.

The exchange gains or losses resulting from these translations are reflected in Revenue from investments.

Note 2

Market value of investments

(in millions of dollars)	1990	1989
Bonds or debentures (par value of $1,296 million in 1990 and $1,395 million in 1989)	$1,266	$1,399
Shares		
Canadian	1,042	993
Foreign	261	220
Deep-discount investments	228	263
Mortgage loans	75	69
Cash and short-term investments	303	223
	$3,175	$3,167

Note 3

Bonds or debentures

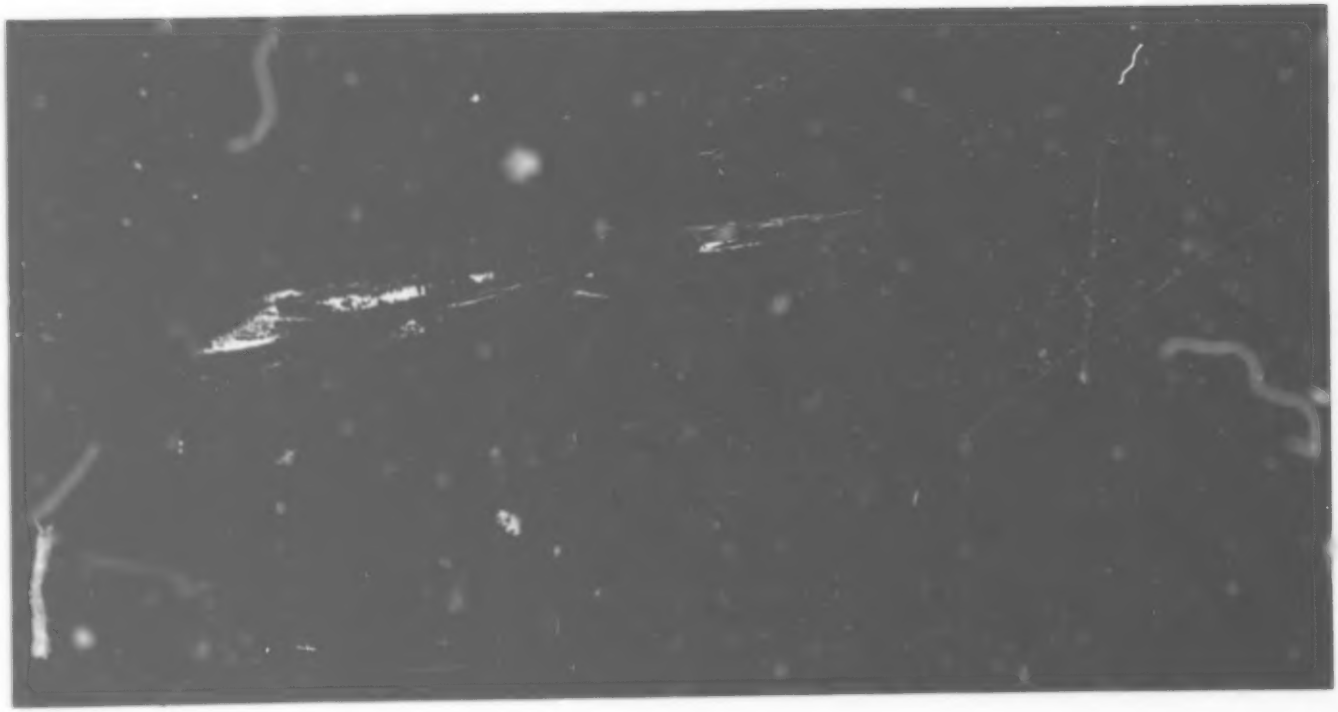
(in millions of dollars)	1990	1989
Issued or guaranteed by the Government of Canada	$ 602	$ 701
Issued or guaranteed by the Province de Québec	84	72
Of Hydro-Québec guaranteed by the Province de Québec	99	146
Issued or guaranteed by other provinces	106	137
Of municipalities, school commissions, Cegeps, hospitals and universities	204	202
Of corporations	173	134
	$1,268	$1,392

Note 4

Actuarial valuation

An independent actuarial valuation made in 1990 for purposes of financing the Retirement Fund shows a net surplus for the overall plan at December 31, 1989. The fund of the basic plan of the Retirement Fund shows a surplus of $295 million, while the fund of the supplementary plans shows a deficit of $95 million. In conformity with the bylaws governing Hydro-Québec's retirement plan, Hydro-Québec must amortize this deficit over a maximum period of 15 years.

Previous actuarial valuations revealed excess special contributions paid by Hydro-Québec in the financial years 1982 through 1984. These contributions and related interest are accounted for by decreasing the assets of the Retirement Fund in the item Excess special contributions made by Hydro-Québec.



Board of Directors

RICHARD DROUIN, QC
Chairman of the Board
and Chief Executive Officer

CLAUDE BOIVIN
President
and Chief Operating Officer

MARCEL AUBUT
Senior Partner, Aubut, Chabot, Lavoyers, Québec City

MICHEL BÉLANGER
Director, National Bank of Canada

MARIO BERTRAND
President and Chief Executive Officer, Télé-Métropole

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Partner, D'Argensio & Associés, Chartered Accountants

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Vice Chairman of the Board, McNeil Mantha

JEAN-LOUIS DULAC
President and Chief Executive Officer, M & M Nord Ouest

JEAN-ANDRÉ ÉLIE
Financial Adviser, Burns Fry

FRANÇOIS GEOFFRION
Deputy Minister, Department of Energy and Resources, Gouvernement du Québec

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President and Chief Executive Officer, Guillevin International

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President, Placements Georges Laberge

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Vice Chairman of the Board, St. Hubert Bar-B-Q

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President and Chief Executive Officer, Métro-Richelieu

SERGE MÉNARD
Vice President, Les Entreprises Ménard

MICHEL PLESSIS-BÉLAIR
Senior Vice President, Finance and Administration, Power Corporation of Canada

CHARLES-ALBERT POISSANT
Chairman of the Board and Chief Executive Officer, Donohue

EXECUTIVE COMMITTEE OF THE BOARD OF DIRECTORS

RICHARD DROUIN
Chairman

MARCEL AUBUT

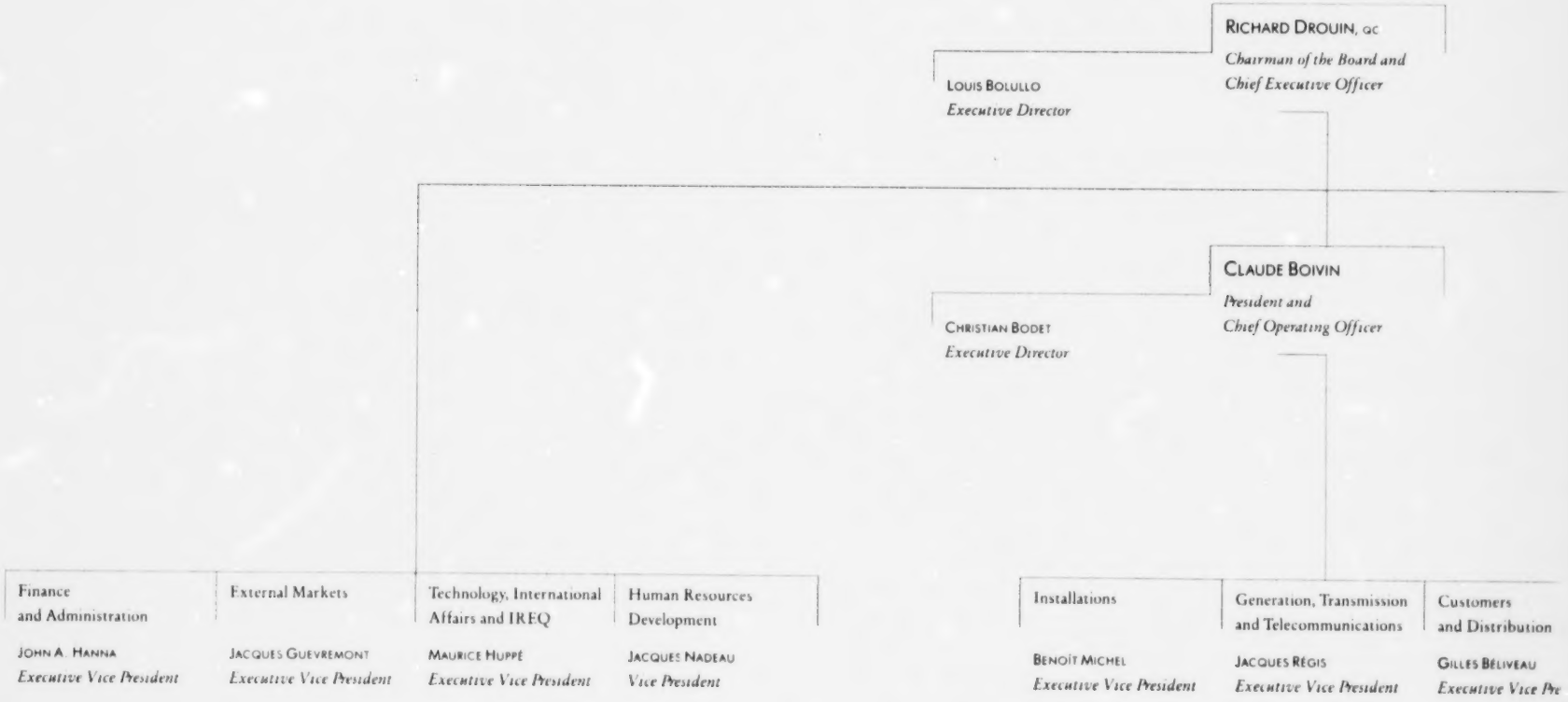
MARIO BERTRAND

CLAUDE BOIVIN

JEAN-ANDRÉ ÉLIE

CLAIRE LÉGER

MICHEL PLESSIS-BÉLAIR


RICHARD DROUIN, QC
Chairman of the Board and
Chief Executive Officer
LOUIS BOLULLO
Executive Director
CLAUDE BOIVIN
President and
Chief Operating Officer
CHRISTIAN BODET
Executive Director
Finance
and Administration
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Executive Vice President
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Executive Vice President
Technology, International
Affairs and IREQ
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Executive Vice President
Human Resources
Development
JACQUES NADEAU
Vice President
Installations
BENOÎT MICHEL
Executive Vice President
Generation, Transmission
and Telecommunications
JACQUES RÉGIS
Executive Vice President
Customers
and Distribution
GILLES BÉLIVEAU
Executive Vice Pre

Québec Markets
Personnel
Communications and Public Relations
Corporate Planning
Quality
Corporate Secretariat
Corporate Audit
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Vice President
JACQUES DUGUAY
Vice President
ANDRÉ DELISLE
Vice President
JEAN-MARIE GONTHIER
Vice President
JEAN BERNIER
General Secretary
ROLLANDE MONTSION
General Auditor

Finance and Administration

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Vice President
Financing and Treasurer

COLIN LONGPRÉ
Vice President
Budget, Financial Planning and Management Control

CAROLE LAMOUREUX
Vice President
Accounting and Internal Control

ROBERT PROULX
Vice President
Computer Services

External Markets

PIERRE BOLDUC
Vice President
Export Sales and Marketing

CLAUDE DUBÉ
Corporate Vice President

JEAN-CLAUDE RICHARD
Vice President
Commercial Planning and Management

Technology, International Affairs and IREQ

ALAIN BROSSEAU
Vice President
Research

LOUIS MASSON
Vice President
Laboratories

VACANT
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Technological Development and Marketing

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YVES FILION
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Generating Facilities and Buildings

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Vice President
System Planning

Generation, Transmission and Telecommunications

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System Operations

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Vice President
La Grande Rivière Region

ANDRÉ LAVOIE
Vice President
Maisonneuve Region

VACANT
Vice President
Manicouagan Region

CLAUDE GRANDMAISON
Vice President
Mauricie Region

Customers and Distribution

VACANT
Vice President
Saint-Laurent Region

MICHEL TAILLON
Assistant Vice President
Saint-Laurent Region

ANDRÉ MERCIER
Vice President
Montmorency Region

LUCIE BERTRAND
Assistant Vice President
Montmorency Region

GAÉTAN MAROIS
Vice President
Richelieu Region

JEAN-GUY PANNETON
Assistant Vice President
Richelieu Region

JACQUES GRENIER
Vice President
Laurentides Region

JEAN-PIERRE BRASSARD
Vice President
Matapédia Region

DENIS ST-PIERRE
Vice President
Saguenay Region

RAYMOND GODBOUT
Vice President Responsible for Customer Complaint Management

Québec Markets	Personnel	Communications and Public Relations	Corporate Planning	Quality	Corporate Secretariat	Corporate Audit
PIERRE FISET *Vice President* *Customer Services*					ROBERT BRUNETTE *Vice President* *Indian and Inuit Affairs*	
JOSEPH M. McNALLY *Vice President* *Industrial Markets*					GILLES LEGAULT *General Counsel* *Law Department*	

Hydro-Québec has five wholly owned active subsidiaries: Hydro-Québec International, Nouveler, *Société 2312-0843 Québec*, *Société d'énergie de la Baie James*, and Cedars Rapids Transmission Company.

In addition, the utility has:

- a 34.2% holding in Churchill Falls (Labrador) Corporation, which operates the Churchill Falls power plant;
- a 50% holding in HydrogenAL and HydrogenAL II, which are general partners in the limited partnerships *société en commandite HydrogenAL* and *société en commandite HydrogenAL II* that produce hydrogen;
- a 50% interest in ArgonAL, which is a general partner in the limited partnership *société en commandite ArgonAL* that mainly produces argon.

Hydro-Québec International

Chairman of the Board
Maurice Huppé

President and Chief Executive Officer
Michel Therrien

Hydro-Québec International exports the know-how of Hydro-Québec and its subsidiaries. It also works on projects, such as turnkey contracts and operating franchises, with Québec partners who are involved in the transfer of expertise or the provision of consulting engineering services abroad.

Nouveler

Chairman of the Board
Maurice Huppé

Chief Executive Officer
Claude Bolduc

Through its subsidiaries, Nouveler markets technological products developed by Hydro-Québec.

Société 2312-0843 Québec

Chairman of the Board
Jean Bernier

Société 2312-0843 Québec is a limited partner in the limited partnerships HydrogenAL, HydrogenAL II and ArgonAL, whose other limited partner is Canadian Liquid Air.

Société d'énergie de la Baie James

Chairman of the Board
Benoît Michel

President and Chief Executive Officer
Jean-Guy René

Société d'énergie de la Baie James manages the major construction projects for Hydro-Québec's power system.

Cedars Rapids Transmission Company

Chairman of the Board
Pierre Bolduc

Chief Executive Officer
Jean Tremblay

Cedars Rapids Transmission Company owns and operates a power transmission line between Les Cèdres generating station and the Canada-U.S. border.

The Power System in 1990

Energy reserve. Runoff in 1990 was slightly below the historic average in the water systems of the following drainage basins: Manicouagan, rivière aux Outardes, Betsiamites, and Churchill. It was average or slightly above average in the La Grande Rivière, Saint-Maurice, Ottawa and St. Lawrence systems. The overall runoff index was 0.96. These average inflows partly explain the increase in energy reserves from 57.4 TWh at January 1, 1990, to 79 TWh at January 1, 1991, including reserves in the Churchill Falls reservoirs.

Generation. Gross generation of Hydro-Québec's generating stations was 115 TWh in 1990, 10.1 TWh less than in 1989. This generation was 94.5% hydroelectric. The three generating stations of the La Grande complex alone supplied 46.3% of the hydroelectric generation. Gentilly-2 and Tracy power stations generated 69.0% and 27.1%, respectively, of the thermal-electric power.

Installed capacity. In 1990, the installed capacity of the Hydro-Québec system increased by 556 MW to reach 25,682 MW at December 31. Most of the increase came from the commissioning of the last two generating units at Manic-5-PA power station. In addition, Hydro-Québec has access under contract to most of the generation of the Churchill Falls power plant, which has a nominal capacity of 5,428 MW.

Peak demand. Peak demand for priority requirements on the system during the winter of 1990-1991 occurred on Friday, January 11, 1991, at 5.30 p.m., when demand reached 27,522 MW, compared with the previous winter's peak of 27,349 MW, an increase of 0.6%.

CANADA
QUÉBEC
MONTAGNAIS
LA GRANDE-2A
RADISSON
LA GRANDE-2
LAFORGE-1
LA GRANDE-4
LA GRANDE-1
LA GRANDE-3
TILLY
CHISSIBI
LEMOYNE
MANIC-5-PA
MANIC-5
MANIC-3
MANIC-2
NÉMISCAU
ABITIBI
CHIBOUGAMAU
CHAMOUCHOUANE
LAURENTIDES
LÉVIS
JACQUES-CARTIER
GRAND-BRÛLE
NICOLET
DES CANTONS
BOUCHERVILLE
HERTEL
CHÂTEAUGUAY
CARILLON

Generating Stations	Installed Capacity (in kilowatts)
Hydroelectric	
La Grande-2	5,328,000
La Grande-4	2,650,500
La Grande-3	2,304,000
Beauharnois	1,652,560
Manic-5	1,292,000
Manic-3	1,183,200
Manic-5-PA	1,064,000
Manic-2	1,015,200
Bersimis-1	930,000
Outardes-3	756,200
Bersimis-2	712,200
Carillon	654,500
Outardes-4	632,000
Outardes-2	453,900
Trenche	297,000
Paugan	250,100
Beaumont	243,000
La Tuque	220,000
Rapide-Blanc	192,600
Shawinigan-2	191,500
Manic-1	184,410
Shawinigan-3	171,900
Les Cèdres	162,000
Grand-Mère	149,575
Rapides-des-Îles	146,520
Chelsea	144,000
La Gabelle	136,580
Première-Chute	124,200
Rapides-Farmers	98,250
Rapides-des-Quinze	94,560
Chute-des-Chats	89,300
Bryson	61,000
Rapide-7	57,000
Hart-Jaune	48,450
Rivière-des-Prairies	48,300
Rapide-2	48,000
Chute-Hemmings	28,800
Hull-2	27,280
Sept-Chutes	18,720
Saint-Narcisse	15,000
Drummondville	14,600
Mitis-1	6,400
Pont-Arnaud	5,450
Chute-Bell	4,800
Mitis-2	4,250
Saint-Alban	3,000
Saint-Raphaël	2,550
Chute-Garneau	2,240
Corbeau	2,000
Magpie	1,800
Rawdon	1,720
Chute-Burroughs	1,600
L'Anse-Saint-Jean	400

Thermal	
Nuclear	
Gentilly-2	685,000
Oil	
Tracy	600,000
Gas-turbine	
De La Citière	200,880
Cadillac	162,000

Thermal	
Diesel units	
Îles-de-la-Madeleine	57,137
Blanc-Sablon	10,400
La Tabatière	6,100
Kuujjuaq	3,935
La Romaine	3,800
Kuujjuarapik	3,405
Saint-Augustin	3,000
Natashquan	2,100
Port-Menier	2,000
Salluit	2,000
Povungnituk	1,800
Inukjuak	1,620
Kangiqsualujjuaq	1,450
Île-d'Entrée	1,190
Kangirsuk	1,050
Umiujaq	1,050
Ivujivik	975
Quaqtaq	900
Akulivik	850
Kangiqsujuaq	820
Aupaluk	550
Tasiujaq	525

	(in kilowatts)
Installed capacity at December 31, 1990	
Hydroelectric generating stations (53)	23,927,115
Thermal stations (26)	1,754,537
Total generating stations (79)*	25,681,652

Generating Stations Under Construction	Commissioning Date	Installed Capacity *(in kilowatts)*
Hydroelectric		
La Grande-2A	1991-1992	1,900,000
Brisay	1993	380,000
Laforge-1	1993-1994	820,000
La Grande-1	1994-1995	1,310,000

* Hydro-Québec also has access to most of the generation of the Churchill Falls power plant, which has a nominal capacity of 5,428 MW.

Transmission and Distribution Lines

(in kilometers)	1990	1989	1988	1987	1986
Transmission					
735 and 765 kV	10,008	10,008	10,008*	10,008*	9,900
450 kV	1,201	78*	78*	78	78
315 kV	3,810	3,810	3,810	3,805	3,798*
230 kV	3,041	3,041	3,045	3,023	3,014
161 kV	1,521	1,521	1,521	1,521	1,513
120 kV	6,053	5,890	5,845	5,810	5,677
49 and 69 kV	3,675	3,687	3,754	3,842	3,836
	29,309	28,035	28,061	28,087	27,816
Distribution					
(overhead and underground)					
34 kV	888	659	655	655	655
25 kV	88,271	83,168	80,556	75,627	70,916
4 and 12 kV	7,164	10,053	10,714	14,113	17,046
	96,323	93,880	91,925	90,395	88,617

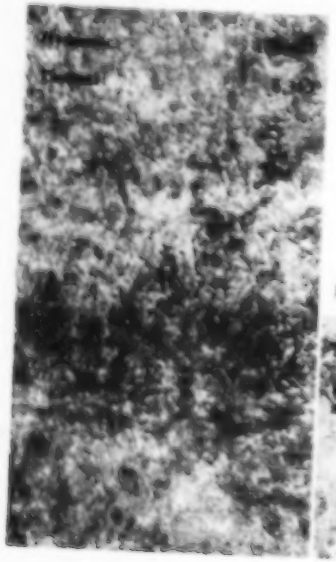
* Revised data

Energy Flows 1990

(in millions of kilowatthours)

Energy in

Energy generated



113,043

Energy received

From Churchill Falls:	26,131
[illegible] systems:	9,862

35,993

151,036

Energy out

Sales in Québec

131,167

Sales outside Québec

United States:	5,581
Ontario:	80
New Brunswick:	3,587
Cornwall Electric:	11
Cedars Rapids Transmission Company:	490

9,549

140,716

System losses and consumption in generating stations

10,320

The interconnections now in place have a total capacity of 7,657 MW, but the export capacity is less than that. In all, Hydro-Québec was able to export simultaneously 5,027 MW in summer 1990, and 5,422 MW the following December 31. The utility can export 1,537 MW to Ontario, if it reduces by 850 MW its exports to New York State. The 1,145-MW interconnection capacity with New Brunswick corresponds to the deliveries registered at the peak of winter 1987-1988. The interconnection capacity with New York State is 2,675 MW, but the state is only able to receive deliveries of 2,495 MW. Moreover, Hydro-Québec is only in a position to export 2,375 MW in summer and 2,290 MW in winter. At December 31, export capacity to New England was 1,300 MW. It will increase to 2,300 MW when the Radisson-Nicolet-Des Cantons line is operating at full capacity.